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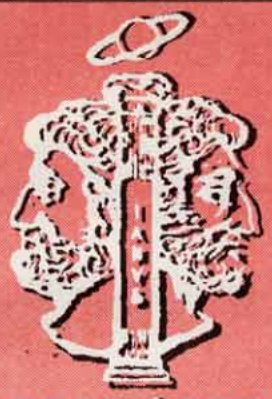

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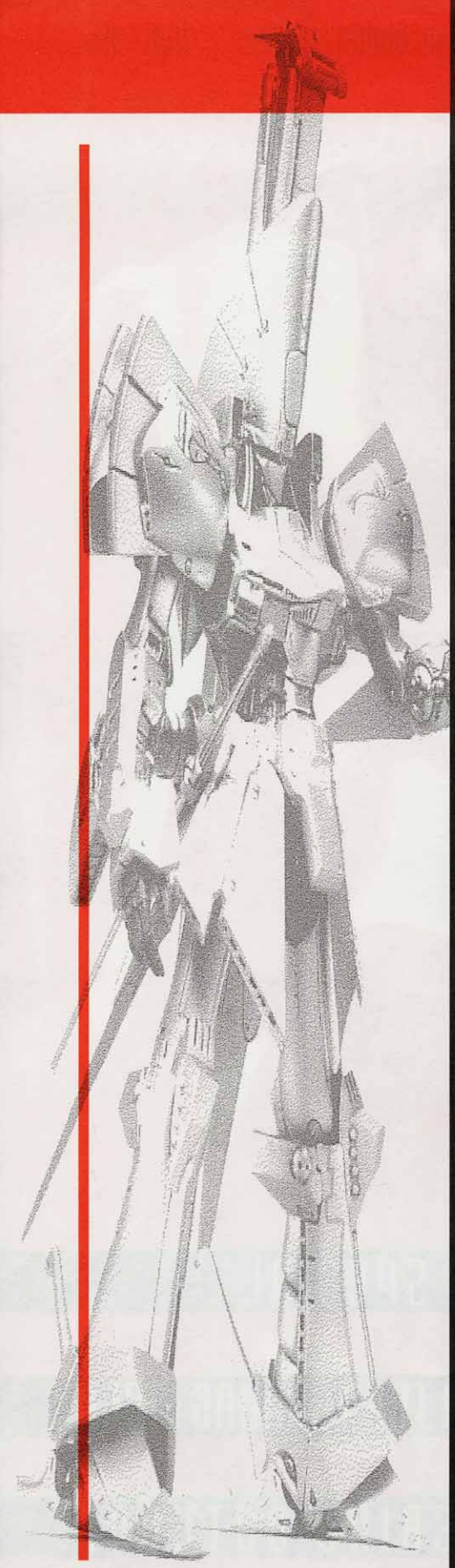
MECHA·PRESS

- MS GUNDAM SPECIAL
- BATTLES FROM THE TRAINING FIELD
- AN ENGINEERING OUTLOOK

Raymond P Campiglio (Order #33181648)



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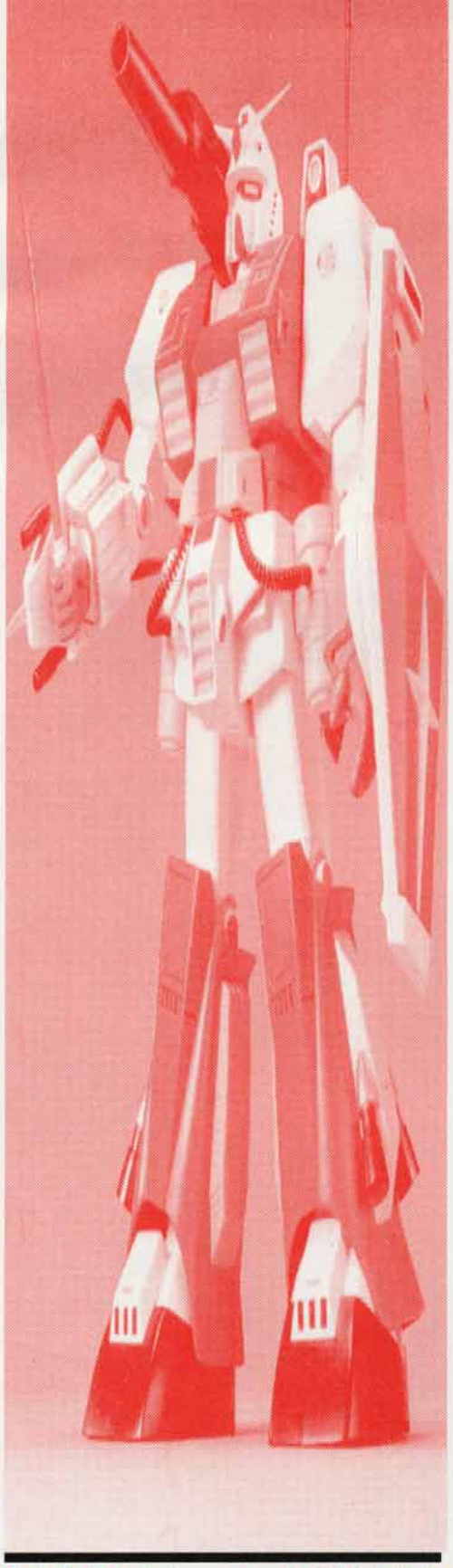

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Claude-J Pelletier, Publisher of PROTOCULTURE•ADDICTS.

Jeffrey tom, from NEW TYPE Hobbies and Toys.

Dany Gagnon, from LE VALET D'COEUR.

And to Mister X (and you no who you are)

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STAFF

Daniel Faucher
Editorial Director
Photographer

Martin Ouellette
Information Director
Communication

Dominique Durocher
Chief Engineer
Technical drawing

Pierre Ouellette
Art Director
Production Adviser

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Raymond P. Campagna Comics #5516-6473

EDITORIAL

SPRING DAYS ARE HERE!

by Daniel Faucher

Ha, the spring! The days grow longer, the sun shines warmer, the snow melts away inviting the spirits to awake. Indeed, it is the time of the year when nature and mankind start living again. The period of the year when trees and ideas are budding. The season of the year when the biggest buds blossom and the most inspired ideas take form.

This spring, an idea has blossomed. The idea is to publish for those who, just like us, are fanatics of mecha models, science fiction games and japanese animations, a magazine whose size would lend itself well to the presentation of great images and to the drawing up, in english please, of plain and easy to read text on these subjects that are our passion.

The result is MECHA PRESS. A magazine in which it will be possible for you to learn more on these humanoid shaped machines, generally named MECHA, which are the backbones of universes like GUNDAM, FIVE STAR STORIES, PATLABOR, BATTLETECH, MEKTON, MACROSS, SOUTHERN CROSS, MOSPEADA, VOTOMS, AURA BATTLER DUNBINE, MEGAZONE 2•3, GAIA-GEAR, MADOX-01, BUBBLEGUM CRISIS and many, many others.

Naturally, when it will be possible, we will be talking about the series in which these mechas evolve. Also, the science-fiction game amateurs will find some suggestions to improve and value their BATTLETECH and MEKTON games. Finally, we'll include some tips and tricks on how to build your models, some reviews on what we've seen and read lately, and some surprises!

In short, you will find inside one single magazine all the elements that you would have had to search for, in the past, in two and even three different magazines.

Isn't it wonderful? Well! We, at MECHA PRESS, believe that spring has never been so blossomed.

Raymond P Campiglio (Order #33181648)

WHAT'S "GUNDAM"?

To understand the story and "raison d'être" behind Gundam, one must go back nearly thirthy years, to the beginning of the 1960's and of the Japanese "Giant Robots" animation show traditions, ("Tetsu Yin 28" being the first one). These stories were, 99.9% of the time, about struggles between good and evil forces, in the style of: the bad guys attack Tokyo (seemingly the only city on Earth!), killing a scientist in the process. Following that, the son (or nephew) of the scientist in question climbs into the brand new giant robot (with a suitably noble name, of course!) the deadly departed had just finished (in time for the invasion, it goes without saying!). Then quite simply proceeds to save the world from destruction (and he's reading the instruction book while doing it!).

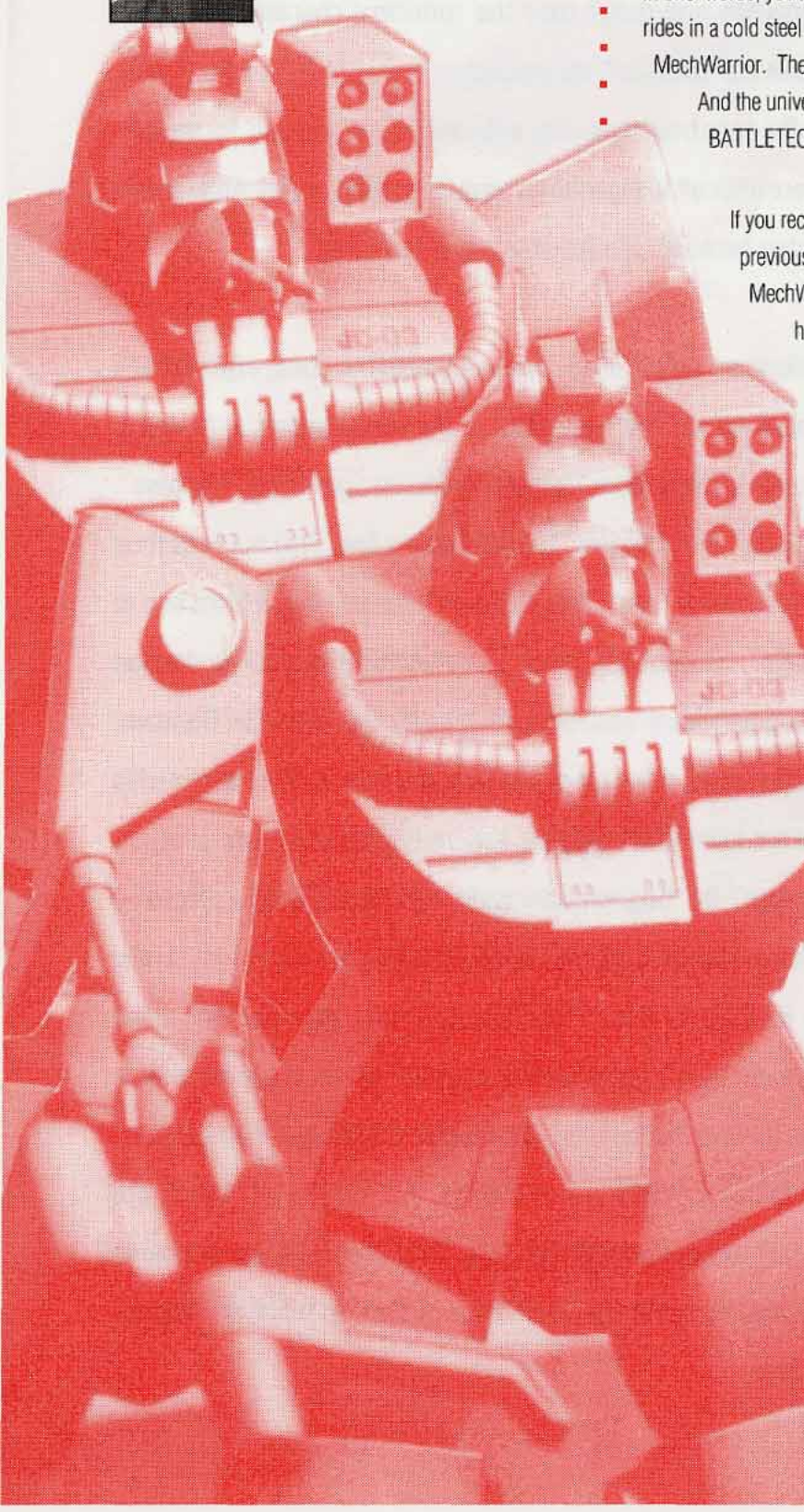
In 1978, Yoshiyuki Tomino, a veteran animation director, who had long chafed at the constraints of the style, was determined to demonstrate that it had a much greater potential. With "Gundam MS", he created a brand new approach to the "robot shows". Influenced partly by Robert Heinlein's 1959 novel "Starship troopers", he abandoned the traditional japanese robot concepts and made the "mobile suit", a type of giant mechanical armored suit or piloted exoskeleton, the centerpiece of his story. In Tomino's viewpoint, mechanical designers had to keep the limits of credibility and the laws of physics in mind, while creating the designs. Named "mechas" or "mobile suits", these machines looked realistic and didn't have the "principal character" aura the robots before them had. Like the "mechas", the characters created for "Gundam" were much more complex than the ones from the earlier animations, introducing, for the first time, personalities that were difficult to pigeonhole as simply good or evil. An example of this being the relationship between Sha Aznable and Amuro Rey.

The first "Gundam MS" television series, in 1979, did not meet the rating expectations of Tomino at first, but ended up as "the" sensation of the early eighties in japanese animation, helping the creation of many more "realistic" animation series like "Macross", "Southern cross", "Mospeada" and "Votoms" to name only a few. That success thus led to a second Gundam instalment titled "Zeta Gundam", followed by a third one in 1986, "Gundam Double Zeta". "Gundam MS" was re-edited for theatrical production in 1987 and in 1988, an original movie was released. This movie, titled "Nu Gundam: Char's counterattack" concluded the principal plot of Gundam, namely the clash of wills between Sha Aznable and his federation nemesis, Amuro Rey (the Gundam pilot). In 1991, a new feature, "Gundam F 91" begins a new cycle. This time, Zion is replaced by "Crossbones Vanguard" (which keeps Zion's ideology and trademark uniforms). A new original video animation (O.V.A.) is also in production at this very moment, titled "Gundam 0083: Stardust memories", which is supposed to happen at the same time as "Gundam Z", this series follows the footsteps of "Gundam 0080: war in the pocket" O.V.A. series that was released in 1989. As in "0080", the mechas of "0083" are reworked versions of ancient designs, mainly the Zaku, Rick Dom, GM and of course the Gundam. You will be able to see these mechas as "F 91", in the 1991 Mecha-connection catalog very soon.

Raymond P. Campagna | Office #5316543

SUCCESSION WARRIORS CIRCLE

by Daniel Faucher



You're in the 31st century. You're a soldier. Your job is to pilot one of the most sophisticated piece of machinery that has ever been built.

Your life depends upon a more or less humanoid shaped vehicule that has ceramic armour for flesh, steel pillars for bones and a fusion reactor as a heart.

Your success depends on your ability to maximize the effectiveness of weapons like lasers, missiles, particle projector cannons and rapid-fire autocannons.

In brief words, you're a knight of a futuristic time that rides in a cold steel beast. The title of your job: MechWarrior. The name of your beast: BattleMech. And the universe your fighting in, is the one of BATTLETECH.

If you recognize yourself when reading the previous text, it means that you ARE a MechWarrior. It also means that you'll have to read this chronicle because it is dedicated to you.

On the other hand, if you haven't seen yourself in this previous description, you could simply elect to skip this chronicle. However, by doing so, you're going to miss a chance to discover one of the most beautifully and thoroughly crafted universe that exists for game purposes.

Why is that so? I hear you asking. Well because it's one of the only games I know, concerning Mecha warfare, that has so much back up (thanks to FASA Corporation), be it historical, technical, scenarios or novels.

Along with it, if you're interested in role playing, other books describe the political, economical, and military situation of all the major forces that have an active role in this futuristic fantasy game.

So, In the BATTLETECH universe, you could actually be a politician ploting and bribing to become one of the rulers of the successor states. You could also be a merchant looking for the deal of the century. Or, you could be a commander, in charge of a mix force of infantry platoons, armored vehicules, battlemechs, and aerospace fighters, trying to overcome an enemy assault on your planet.

Furthermore, you could decide to be a scout, a spie, a doctor, a technician, an aerospace pilot, a Comstar adept, etc. In fact, with the role playing game in mind, the only limit to the amount of professions you could occupy is bound by your imagination.

However, there is one profession that should be considered first. Since the game is centered around it, one should choose to take part of the action and so become a battlemech pilot; a Mechwarrior that is.

The Mechwarrior is truly the heart and soul of every military force in the BATTLETECH universe. Consequently, since there is always some battle going on in this universe, the player which will choose to be a mechwarrior will definitely see a lot of action.

Yet, only the toughest, the most skillful, the most intelligent and the strongest personality will succeed through these actions. The question is: Do you have what it takes?

There's only one way to find out.

Raymond P Campiglio (Order #33181648)

BATTLETECH: THE BASIC GAME

by Daniel Faucher

The FASA Corporation package titled "BATTLETECH® a game of armored combat" is what you absolutely need to get started. It contains colour counters of mechas, game maps, dices, and the most important thing of all, the rule book.

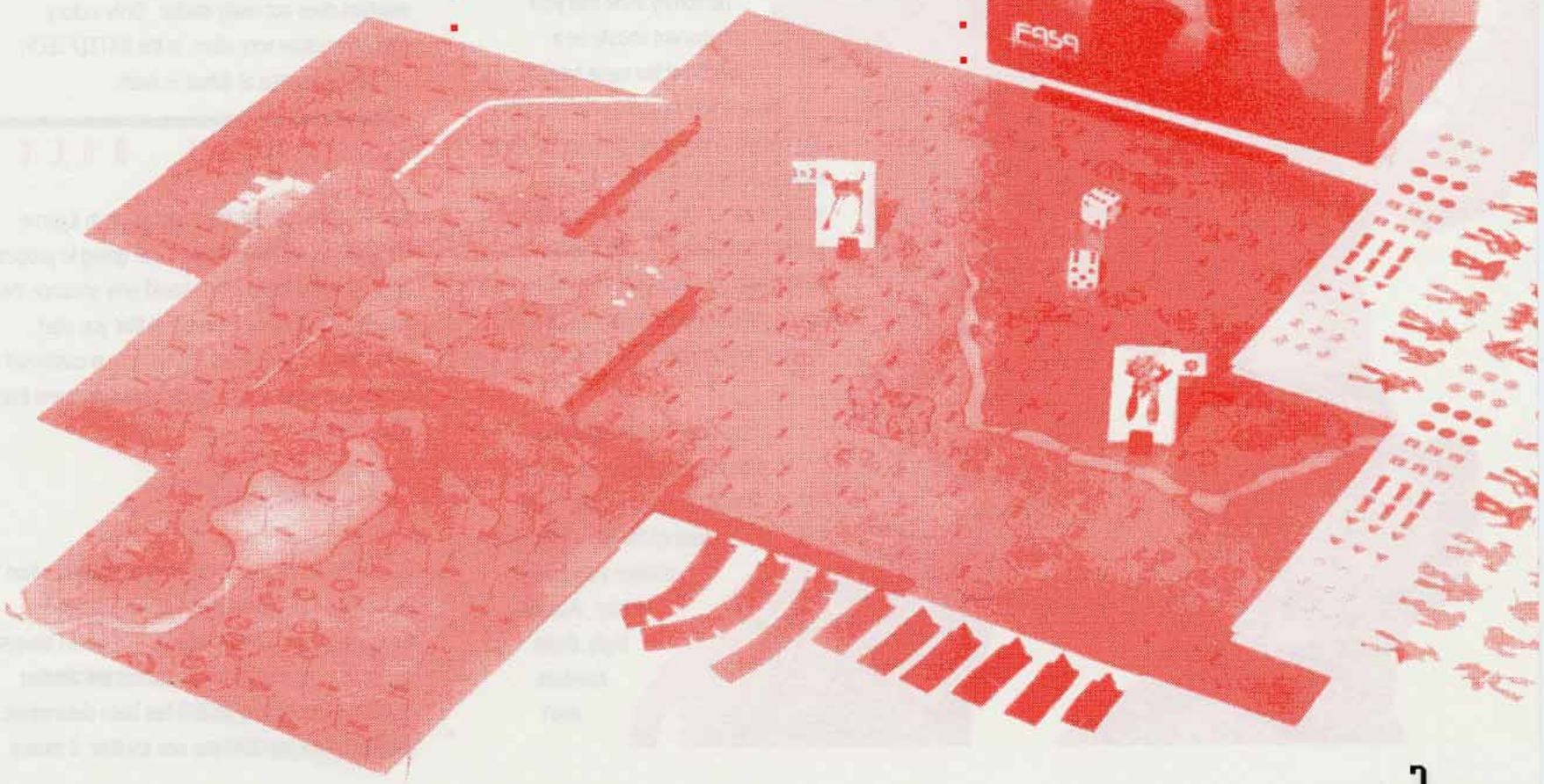
Now, if it could be possible, I'm sure there would be a training officer, not smiling at all, popping out of the rule book saying: "Welcome to the BATTLETECH training center! Here, we're going to give you all the basic knowledge regarding the ultimate in modern warfare. We're going to train you into becoming a MechWarrior."

So, in this game, you're a mechwarrior; i.e. a mecha pilot. These mechas ressemble the GUNDAM Mobile Suits, except that the latter are much, much bigger. The BATTLETECH mechas are called BATTLEMECH. Their weight ranges between 20 and 100 tons. They carry weapons like lasers, missiles, particle projector cannons and rapid-fire autocannons.

Ultimately, you're supposed to use your mecha to destroy other mechas. "Ha, ha! This is another hack'n slash type of game." I might hear some of you say. Well! If that's the case, you better stop reading this chronicle and get your Monopoly game. Then, stick to it, because you don't seem to understand that any military type of game involves some hack'n slash at a point or another. There! I said it.

According to what I've just been mentioning, I do believe that BATTLETECH is a game where strategies and tactics take far more importance then sheer luck. I say so because I came to realize, after a while, that the advantage in weight and fire power that a mecha could have over another doesn't automatically assure a victory. Actually, a better understanding of the strenghts and weaknesses of your mecha and the ones of the mecha that you're facing would be more susceptible to give you a victory. Furthermore, since you can't win all the battles, this knowledge will certainly help you take good decisions towards deminishing your losses. However, that knowledge comes only with experience, and experience comes from the battlefield. Accordingly, the battlefield is where one learns all the basic rules of modern warfare. Finally, it's inside the book included with the basic BATTLETECH package that you will find these basic rules.

Actually, that package offers you a board game that is simple enough for quick understanding, complete enough so that there's no need to buy anything else to start with and brilliant enough to justify the need to take some strategic and tactical decisions. Also, this package offers enough backup, be it charts or scenarios, so that you don't have to worry about learning all the rules and creating goals. Instead, you can simply enjoy playing a fast and funny one night game.



BATTLES FROM THE TRAINING FIELD

by Daniel Faucher

One of the first thing you've got to know about the BATTLETECH universe is that huge or heavy mechas are usually a rare scene on the battlefield. Following the same train of thoughts, small or light mechas are, to the opposite, a very common one. Actually, to get a better understanding of that universe's philosophy, you just have to take a look at the name of one of these mechas: the LOCUST. Here, you should read: LOW COST.

Consequently, your first mecha should be a small, unexpensive and common machine. Therefore, it shouldn't weight more than 35 tons. Then, once you've chosen the type of mecha you wish to pilot (here I would suggest a random choice), walk it out on the training field and get ready for your first fight.

For your first battle, I personaly think that your opponent should be a mecha of the same type than the one you've chosen for yourself. The reason is that it will help you realize more quickly the strenghts and weaknesses of your mecha. Also, these mechas being equal to one another, it should help you into learning to rely more on tactics and strategies than on the overall superiority of your mecha.

Furthermore, I believe that you should repeat the same combat a few time, or if you wish, until none of the opponents can achieve a decisive victory. Accordingly, these combats always have to take place in the same combat zone. For example, you could fight your first duel on an open field, this giving you a chance to get accustomed to the moving and targeting principles. Then, your second duel could take place on a wooded field, permitting you to familiarize yourself with more of the moving and the targeting rules. Thenceforth, your other duels could be happening inside and around a city or on a mountainous field, completing your tour of the basic rules of the BATTLETECH combat system.

Note here that the presence of three players would be ideal. There would be two of them controlling mechas and the other one would act as a game master. It would be up to him to decide if mechas see one another whenever there's a combat happening in the woods, in the mountains or in the city. Although, the G.M.(Game Master) does not always have to be the same person. Instead, the players could switch roles from one fight to another.

Thereto, you could simply spice up the game by replacing the loosing player with the former G.M.. Thereby, you would give a new goal to the fight by trying to beat the winner. Furthermore, without noticing it, you'll improve your tactical and strategical mind. This is much like when one is playing chess, except that for our present combat situation, we only have two pieces facing each other on the game board instead of 16 on each side of the chess board. Somehow, the numbers of pieces involved does not really matter. Only victory counts, because very often, in the BATTLETECH universe, the wage of defeat is death.

OPTIONAL RULES

If there is one quality that I appreciate in a game, it's got to be realism. Therein, I'm going to propose some optional rules which could only enhance the realism of your game. I suggest that you start using them only once you've become accustomed to the basic rules of this modern warfare game that is BATTLETECH.

HIDDEN MOVEMENTS

One of the first things that everyone notices, when playing on a field that has a setting containing trees, mountains or buildings, is that it isn't always so obvious if a mecha can or cannot see another mecha. Furthermore, once it has been determined that the machines don't see one another, it means

Raymond P Campiglio (Order #33181648)

that each player is also not supposed to see the opposite player's playing piece. Consequently, you're facing a situation where possible conflict could emerge. Now, to prevent this situation from happening, you'll simply have to introduce in your game a rule concerning hidden movement.

To begin, let's take a look at the rule concerning the line-of-sight. That rule specifies that almost anything which stands taller than a mecha, blocks the LOS(Line-Of-Sight). Among these things are specified woods, mountains and buildings.

Firstly, woods are said to be standing two level high, which is one level higher than mechas. This means that mechas only see through wooded hexes and not over them. Now, LOS is blocked whenever there is three light woods or two heavy woods hexes in between mechas. Therefore, these mechas should be in a situation where hidden movement becomes necessary, but it is not the case.

You see, I came to notice, reading one of the BATTLETECH novel, that mechas are equipped with what they call a MAG SCAN. The function of that piece of equipment is to detect any concentration of metal. Since mechas are constructed with all sorts of different metals, they appear on the monitor of the scanner, giving away their current position. Thereby, you don't need an hidden movement rule to take over in this situation.

Secondly, mountains are said to have different level of elevation. Accordingly, a mountain of an elevation of one and over, blocks the LOS. Thereto, I have to specify that the MAG SCAN, according to what I have read on it, does not always work properly when used to detect a mecha through a hill, a mountain or a mount of rocks. In consequence, that creates a possible situation for the use of a hidden movement rule.

Thirdly, buildings are said to have different levels. Hereby, they have the same standards of effects on the LOS than the mountains, although they don't affect the MAG SCAN in the same way. Actually, the effectiveness of the scanner depends on the density of the buildings' concentration and on their type. So, the more buildings you'll find, the less effective your device will become. Even the toughness of these buildings affects the performance of the MAG SCAN in the same pattern. Therefore, if a combat takes place in a major industrial city, the scanner will simply go wild and become useless, bringing up the need of an hidden movement rule.

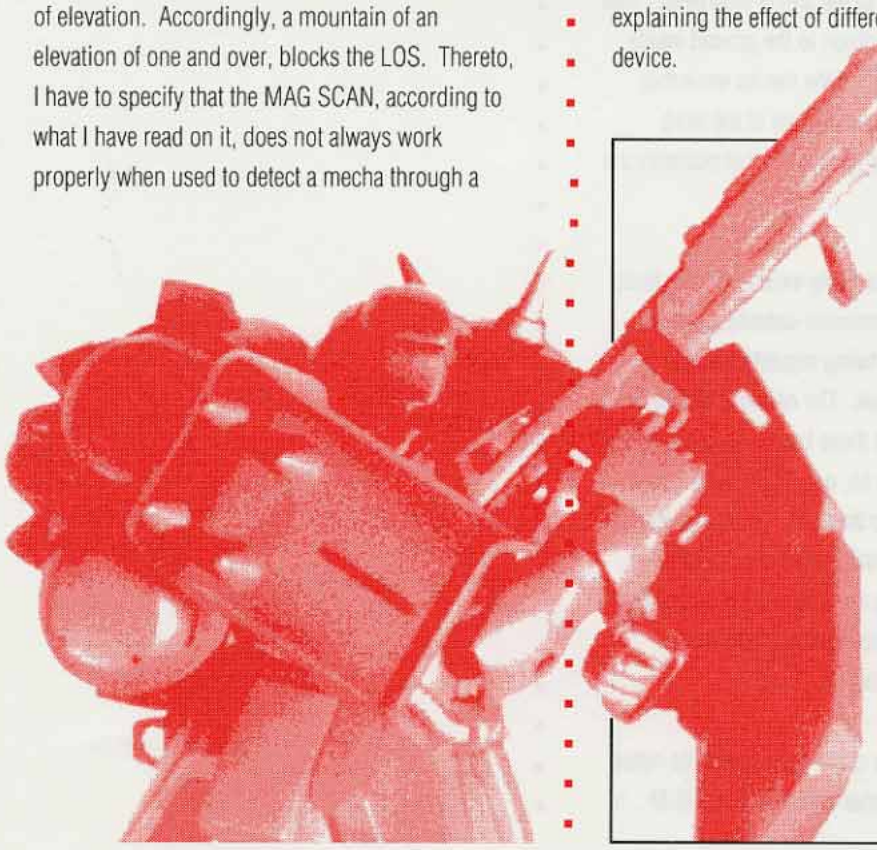
That rule, which I'm about to suggest to you, will bring some work to the G.M.. It will be his or her responsibility to keep track of each players' mecha(s) and to determine a few factors about the field set-up. Hereafter follows my suggestions concerning hidden movement.

The first thing that should be done, is to determine if there is a suitable field situation for hidden movement. Accordingly, the G.M. should decide if mountains, hills or rock hillocks contain sufficient mineral substances and if buildings are complex enough and numerous enough to interfere with the functioning of the MAG SCAN. Here follows a chart explaining the effect of different fields on that device.

Notice here that the word "Mountains" stands for mountains, hills and rock hillocks. Furthermore, once that the dice roll on two dice six results in a malfunction, it means that the MAG SCAN device gives you a reading that is, at the least, confusing. The result is that you simply loose track of your opponents for that turn or the rest of the game, if the result shown in the chart is "Always". I shall add that this roll should be made at the beggining of the turn, before any movement can be resolved. That should create some opportunities to use the hidden movement rule.

First off, to make this rule fair, I suggest that all the pieces be removed from the board. You see, if a player's mecha is still on the table, but not the one of the opponent, then that player will know for sure that his opponent MAG SCAN shows a reading of his position. Instead, if no one sees the other player's mecha, and if everyone makes a secret roll, the G.M. will easily be able to control the game by forwarding the current position of one another's mecha, and that, only to the concerned player.

Now, a good way for everyone to keep track of the action would be towrite it down. Currently, a copy of the field drawing, done previously by the G.M., would be perfect for that use. The G.M. should also write down on little pieces of paper the information that he has to pass along to the players. He should even give a note, with nothing written on it, to a player whose MAG SCAN malfunctions. The purpose is again to avoid any players from knowing for sure if the other is aware of the location of his mecha.



Type Of Field	Type Of Building	Density	Malfunction On
Mountains	-	None	Never
Mountains	-	Low	11+
Mountains	-	Average	7+
Mountains	-	High	3+
City	Light	Low	Never
City	Light	Average	Never
City	Light	High	11+
City	Medium	Low	Never
City	Medium	Average	11+
City	Medium	High	8+
City	Heavy	Low	11+
City	Heavy	Average	8+
City	Heavy	High	5+
City	Hardened	Low	8+
City	Hardened	Average	5+
City	Hardened	High	Always

OPTIONAL RULES

PALADIN SHIELD

The Paladin Shield is a piece of equipment that I've specially conceived just for the mecha that we have designed and called the PALADIN. (You will find the specifications for that mecha further away in our magazine.) This shield weight 10 tons, has an internal structure of 16 points, has an armour factor of 32 points and carries 3 vibrabombs plus 4 command-detonated mines. The shield takes 4 critical spaces in the internal structure diagram of the carrying arm. Here's how I suggest that you could rule the use of this shield.

To begin with, every time that your mecha gets hit and that the hit location is either the legs, the torsos, the left arm or the head, another die roll should be make. This one to determine if the shot hits the predetermined location or the shield. The attacking player should now roll one dice six and interpret the result has follows:

Accordingly, if the result indicates that the shield did not intercept the shot, the damage simply takes place on the the targeted area. On the other hand, if the result shows that the shield did got hit, the damage should be applied to the armour and internal structure of the Paladin Shield. This is done in the same fashion that is explained in the BATTLETECH rule book.

Note that a roll wich would normally result on a Center Torso Critical but that gets intercepted by the shield, still give you an opportunity to make one roll on the BATTLETECH Critical Hit Effects table. The only difference is that the critical effect will apply to the Paladin Shield instead of it's intended location. Therefrom, if a critical effect is to be happening, roll one dice eight.

• On the result of a 4, the arming and the releasing mecanisms of all vibrabombs and mines, which are attached to the back of the Paladin Shield, jams. This leaves the tree vibrabombs useless but the four mines could still be exploded since they're command-detonated through the use of a microwave beam signal. The only problem is that you can't drop them on the field anymore. Although, the shield can be drop. This action can be performed for as long that the 4 critical spaces, used by the Paladin Shield inside the carrying arm, are still intact.

HITS THE SHIELD ON: DIRECTION OF THE ATTACK:

Targeted Area	Right Side	Front	Left Side
Right Leg	Never	6	6
Left Leg	6	5+	4+
Right Torso	6	5+	3+
Center Torso	5+	4+	3+
Left torso	4+	3+	2+
Right Arm	Never	Never	Never
Left Arm	3+	2+	Always

• On the result of a 1, 2, 3, 5, 6, 7 or 8, one of the vibrabombs or mines explode and creates a chain reaction that detonates the others. Now, if one of them is missing but it's number comes up, don't re-roll the dice. Consider that there is simply no further effect. The first vibrabomb to be dropped should always be the number 1 and so on for the other two. The first mine to be dropped should always be the number 5 and so on for the other tree. Also, if an explosion of the vibrabombs and mines occures, all damages should be first applied to the shield itself. Than, the remaining damage points should be transfered, in order, to the left arm, to the left torso and finally, to the center torso.

You should also take notice that if you get a score of 12 on the BATTLETECH Critical Hit Effects table, the shield connection to the arm is destroyed. This means that the shield drops to the ground inside the same hex where stood the mecha when this happened. It also signify the lost of the extra protection and damaging capacity that procures the shield to the Paladin.

Here, that damaging capacity exist under the form of vibrabombs and command-detonated mines. Their use is currently being regulated in the BATTLETECH rule book. The only one difference resides in the fact that these bombs and mines need to be dropped. To do so, one player only have to privatly announce it to the G.M. Of course, if each of the mechas on the battle field see one another, there should'nt be any need for a secret announcement, since the pilot inside the mecha would certainly notice the drop.

Anyways, the location of the drop should be noted down on a piece of paper and kept by the G.M.. In addition, the weight sensitivity of a dropped vibrabomb should be inscribed on the same piece of paper. Here though, it is of the outmost importance for you to notice that the vibrabombs carried by the Paladin should not be set to a weight sensibility under 60 tons. The reason for this is that once you have dropped the bomb, you'll need to jump 4 hexes away (that's the maximum jump capacity of the Paladin) in order to avoid detonating the vibrabomb with you're own foot steps.

Finally, there is only one restriction directing the use of the command-detonated mines. It can only be set off if there is a clear LOS between the mine and the mecha.

Raymond P Campiglio (Order #33181648)

MECHAS DESIGNS AND MODIFICATIONS

by Daniel Faucher

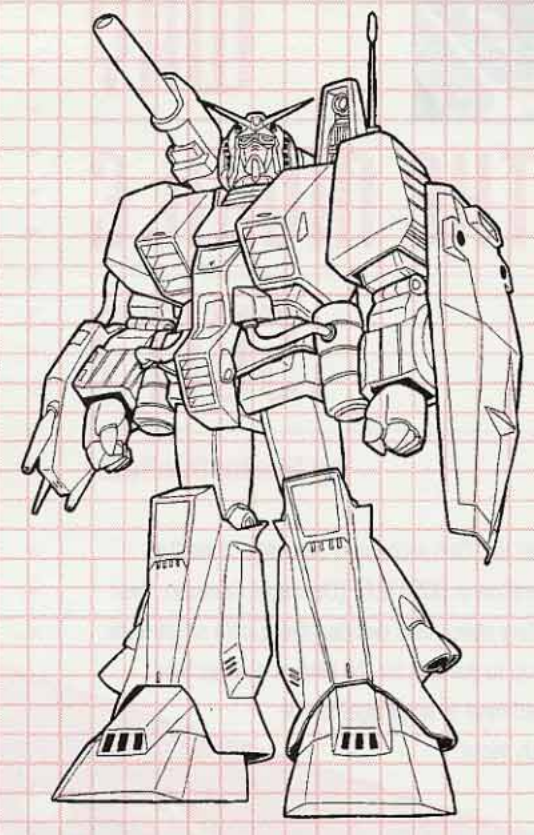
Here, we are proudly presenting to you our first mecha modification and our first new design of a mecha. The modification applies herein to an existing Battlemech from the BATTLETECH universe: the LOCUST. While the new design, called the PALADIN, comes from an existing mecha of the MS GUNDAM series: the RX-78 Perfect GUNDAM.

Now, we know that a mecha from BATTLETECH reaches heights of 12 meters at the maximum, compared with 21 meters of heights for GUNDAM's mechas. So, we suggest that you buy the 1/100 scale model kit of the RX-78 Perfect GUNDAM and than that you compare it with a 1/72 scale model kit of the LOCUST. You'll certainly realize, like we did, that they actually look well proportioned compared to one another.

Incidentally, we have decided to help the advanced BATTLETECH player who would like to use his RX-78 Perfect GUNDAM model kit in a game. Also, the player who would like to have his LOCUST kit looking much like our suggested modification, will simply need to do a little bit of scratch-building. (Check our Tips and Tricks chronicle for more details in our next issue of MECHA•PRESS)

PLN-2MP PALADIN

The Paladin falls into the assault category of Battlemech. It's general design would definitely categorize this mecha has a close combat machine. It actually carries only one long range weapon: an extended range PPC. The rest of it's weaponry consist of two medium pulse lasers and two small pulse lasers. Consequently, adding the fact that this mecha suffers from quite a slow movement rate, the Paladin would not do to good on an open field. Actually, it's real strenght comes from the shield it carries on the left arm. This shield adds an extra 2 tons of protection to an already full armoured mecha and also holds in it's back some nasty surprises: 3 vibrabombs and 4 command-detonated mines. Now, with these features, we think that the Paladin is perfectly fitted to fight inside cities, where it could easyly set some booby traps and prepare some ambushes. Therefore using it's close combat abilities to the maximum.

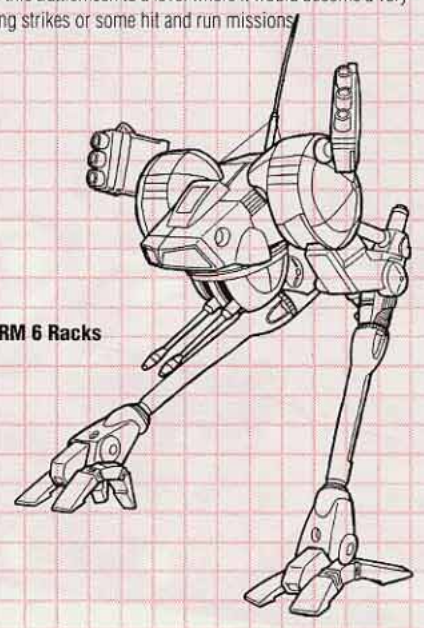


Mass: _____ **90 tons**
Chassis: _____ **Earthwerks PLN 1 Endo Steel**
Power Plant: _____ **Hermes 360**
Cruising Speed: __ **4(5)**
Maximum Speed: _ **6(8)**
Jump Capacity: ___ **4**
Armor Factor: ____ **250**
Armament:
One Magna Firestarter Extended-Range Particle Projection Cannon
Two Martell Medium Pulse Lasers
Two Magna 200P Small Pulse Lasers
One Earthwerks Paladin Shield
Manufacturer:
Earthwerks Incorporated
Communications System:
Neil 9000
Targeting And Tracking System:
RCA Instatrac Mark XIIP

Type: _____ **PALADIN SHIELD**
Mass: _____ **10 tons**
Armor Factor: ____ **32**
Armament:
Three Imperator Vibrabombs
Four Imperator Command-Detonated Mines
Manufacturer:
Earthwerks Incorporated

LCT-1MP LOCUST

The Locust is a Battlemech which main purpose resides in scouting. It usually counts more on it's speed, than anything else, to get out of trouble. Accordingly, this mecha, has it was originally, lacks to much fire-power to be anything more, on the battle field, than a nuisance or a training mecha. However, the addition of a medium laser to the turret, combined with the replacement of the two machine guns buy a single split-configuration SRM 6 luncher changes this situation. We believe that these changes, in spite of a new reduced speed, should upgrade this Battlemech to a level where it would become a very suitable machine to accomplish some lightning strikes or some hit and run missions.



Mass: _____ **20 tons**
Chassis: _____ **Bergan VII**
Power Plant: _____ **120 GM**
Cruising Speed: __ **6**
Maximum Speed: _ **9**
Jump Capacity: ___ **0**
Armor Factor: ____ **64**
Armament:
Two Medium Martell Laser
One Split-Configuration Arrowlite SRM 6 Racks
Manufacturer:
Bergan Industries
Communications System:
Garret T10B
Targeting And Tracking System:
O/P 911

Raymond P. Campagna | Order #3316163

WHY THE MOBILE SUIT?

by Martin Ouellette

When the Zion archduchy separated from the federation in 0054 U.C. (Universal Century), their military specialists decided that Zion's ships were not up to the task for the kind of combat they would have to wage against the much more numerous federation ships. What helped them in their search for a more effective weapon system was the discovery of the "Minovsky particles", named after their discoverer, Dr. Anton Minovsky. When these infinitesimally small, magnetically charged particles were scattered in space, they fused with plasma, creating an unstable magnetic field which absorbed rather than reflected radio and radar waves.

Although their short lifespan represented a major flaw, they fundamentally (and dramatically) altered the rules of combat. They quite simply rendered radar-based weaponry completely ineffective and useless. The Zion technicians used that discovery to its maximum potential, creating a completely new weapon system, aptly named "Mobile Suit". This was nothing less than a 70 feet tall humanoid soldier which could use the "Minovsky particles" as a smoke screen, then simply jump in the middle of the battle to destroy ships totally unaware of its presence (remember there is no radar, combat is on visuals only!).

Because of its relatively small size (compared to ships, of course!), the zaks (or zaku) as they came to be known, could destroy a flottila of federation ships single-handedly then turn tail on a dime if the situation asked for it. The "mobile suits", more than anything else, made possible Zion's stand against a much more numerous federation and helped the opening rounds of the "one week battle" (in 0078 U.C.) to go more or less the way Zion's leaders had predicted it would.

For the federation, the use of a 70 feet high metallic soldier seemed idiotic at best. They did not laugh for long. When the Zaks tore their biggest fleet to shreds during the "one week battle", the federation's high command decided, in its great wisdom (!), to fund the research and development of a "mobile suit" of their very own. Named "RX-78 Gundam", it would, shortly after its insertion in the space forces ranks, make the Zaks nearly obsolete and force Zion to upgrade their "mobile suits" to a greater height of fire power, speed and maneuverability, thus starting a "mobile suit" technology race that hasn't stopped since "Gundam MS" in 1979. Look for new designs in "Gundam F 91" model series, coming soon.

Raymond P Campiglio (Order #33181648)

GUNDAM CHARACTERS

by Martin Ouellette

These are simplified biographies of "Gundam MS" characters. More can be learned by reading the three novels available from Delrey.

Principal characters

AMURO REY:

Cadet first class, later ensign then lieutenant (JG). 17 years old.

An innocent and kind youth, Amuro finds himself thrown in a war more savage than anything the human race has ever known. Although trained to use a "mobile suit", he has at first, doubts about his ability to pilot one of the giant machines. Then, one day, all hell breaks loose in side 7 (where he's in training) when two Zion "mobile suit" (Zakus) enter the colony stealthily to destroy the "mobile suit" the federation is working on. That day, Amuro forgets his doubts and fears, discovering to his amazement that his abilities are just fine. In fact, they are truly incredible! The mecha responds with extraordinary speed and smoothness, allowing Amuro to destroy the two zaks easily. After this first battle, Amuro is put in full charge of the Gundam (RX-78). During the one year war, Amuro Rey will time and time again prove his worth and courage, especially when fighting his worst enemy, Sha Aznable, Zion's best mobile suit pilot. Amuro is without a doubt one of the most powerful Newtype in Gundam and certainly, one of the most heroic anti-heros of Japanimation.

CASPAR ZEM DAIKUN ALIAS SHA (CHAR) AZNABLE:

Lieutenant commander. 19 years old.

Sha is a man of many traits and talents. A supremely confident pilot, he's a brilliant tactician, efficient, cold and manipulative, his coldness serving mostly to cover the tenderness and love he is capable of showing to the ones worthy of his trust. His confidence and skills as a "mobile suit" pilot gave him his grade of Lt. commander in the Zion forces. Although he seems devoted to Zion's ruling family, the Zavis, he infiltrated Zion with only one desire: to destroy the family he knows to be the murderers of his father, Zion Zum Daikun, the founder of the Zion republic (became an archduchy under the Zavis) and creator of the "Newtype" concept (see text "What's a Newtype"). Sha finds in Amuro Rey the enemy he was fighting in his worst nightmares. Although he's a powerful "Newtype" himself, Sha can do nothing when Amuro kills Lala Sun (Sha's only love). From that day on, Sha will hunt Amuro with hate. Sha will one day become the leader of Zion, join the Anti Earth United Government (A.E.U.G.) during "Z Gundam", disappear during "Gundam ZZ" (Double Zeta) then return at 33 years old, to meet his destiny in "Nu Gundam: Char's counterattack" (1988). He will be missed by all "Gundam" fans and will probably always be seen, by many, as "the" character in Gundam's animation series.

LALA SUN:

Holds a post in the Flanagan agency. 18 years old.

Lala is an extremely powerful Newtype and the only real love Sha Aznable will ever know. She's responsible of many of the plot twists in Gundam, including the clash of wills between Amuro Rey and Sha Aznable, a clash that ends in "Char's counterattacks: Nu Gundam", many years later. Enroled by Zion for her Newtype abilities, Lala, after many tests, is chosen to be the pilot of Zion's newest weapon system, the "Elmeth" mobile armor. Her psychic contact with Amuro Rey during a battle, persuades her that she must do everything in her power to prevent Amuro and Sha to kill each other. Regrettably, she fails to do so, for, during a particularly intense combat, Amuro inadvertently kills her, rending Sha nearly mad with revenge and hate. Lala's influence is felt throughout the animated series and books, stopping only with the death of Sha and Amuro in "Char's counterattacks: Nu Gundam".

ARTESIA SOM DAIKUN ALIAS SAILA MAS:

Petty officer second class. 20 years old.

Although serving in the federation, Saila is the daughter of Zion Zum Daikun, the founder of Zion, and the sister of Sha Aznable, Zion's best pilot. Being a Newtype, she senses that Sha's obsession with avenging their father's death will be his undoing. Extremely attracted to Amuro Rey, Saila will become his confident then later his lover. A beautiful young woman with blond hair and blue eyes, Saila is certainly one of the most attractive characters in "Gundam MS".

ZION ZUM DAIKUN:

Political agitator, born ?, died 0058 U.C. (Universal century).

Creator of the Zion republic, Zion Daikun was also the proposer of the Newtype theory. At the beginning, he was only a political agitator. Later, his charisma won him the affection of the people of Zion. But sadly, he had associated himself with some very untrustworthy people, mainly the Zavi family, who where advocating a near total annihilation of the "ordinary" people of Earth. Zion Daikun tried to dissociate himself from them but when he talked about opposing the Zavi's powerbase, they had him assasinated. Zion's children, Caspar and Artesia, were rapidly taken away by one of their father's friend, Zimba Ral. Once on earth, Zimba changed his own family name and the Daikun children for an already established name. Caspar Zum Daikun became Caspar Mas and Artesia Som Daikun became Saila Mas. Later, Caspar changed his name again to Sha Aznable, in the hope of infiltrating Zion (see "Sha Aznable") to avenge his father's death. Zion Zum Daikun, like Karl Marx before him, was a man with a powerful ideal. An ideal that, after his death and replacement by Degin Zavi, turned to a bloody dictatorship. Zion Zum Daikun's influence is extremely strong throughout the books and animated series.

Secondary characters

BRITE NOAH:

Ensign (later captain), early twenties.

The stuffed shirt of the Pegasus' crew, Brite, by a twist of fate, becomes the ship's captain. He soon forgets his aloof ways and gains the trust of his crew. Utilizing all the ressources he can, Brite Noah finds the way to win battles again overwhelming odds. Brite is present in all the Gundam's animated series except for "Gundam 0080: war in the pocket".

MIRAI YASHIMA:

The pegasus' pilot. 18 years old.

Mirai is a young woman with exceptionnal insights, a quality helped by her Newtype abilities. She, on multiple occasions, will save the pegasus from being destroyed during combat. Mirai, with time, will become Brite Noah's sweetheart then his wife. She is seen a number of times during the animated series following "Gundam MS", making her last apparition in "Nu Gundam: Char's counterattack".

GREN ZAVI:

Supreme commander of the Zion forces.

In his late thirties early forthies. Gren Zavi is the master of the Zion archduchy, his father, Degin Zavi, being nothing more than a puppet. He hates his father, who, one day, told him that he wasn't a Newtype but only a revised version of Adolf Hitler. He is, with sister Krishia, the creator of the "mobile suit" concept. He will meet an end in accordance with his way of life. After trying Krishia and failing, she will kill him herself. No one cried at his funeral.

KAI SHIDEN:

Cadet first class (later ensign) and gun-cannon pilot. 18 years old.

Kaishiden is a strange young man, both by his looks and way of thinking, who enjoys chasing skirts and making lewd jokes (often about Amuro Rey's relationship with Saila Mas). He's a very good gun-cannon pilot, being quite satisfied in playing second fiddle to Amuro Rey (except when Saila is concerned!) Kai is Amuro's good friend and stands by him all the way during "Gundam MS" and even makes an apparition in "Z-Gundam". He discovers his Newtype powers with astonishment and uses them with great skills.

HAYATO KOBAYASHI:

Cadet first class (later ensign) and gun-cannon pilot. 18 years old.

Hayato is quite confident of himself as a pilot but cannot accept the fact that Amuro Rey is the one chosen by fate to pilot the "RX-78 Gundam". His jealousy and desire to prove to everyone around him that he's as good as Amuro sometimes drives him to do things that no sane person would do. Like going out alone, in his mecha, without cover. Hayato exults when he discovers his Newtype abilities. He is seen only in "Gundam MS" and makes no further apparitions in any of the other series.

GENERAL REVIL:

General, in his late sixties, early seventies.

General Revil is a genious of space combat tactics. First of his class from kindergarten to officer's academy, where he received full honor for his performances, Revil is, without a doubt, the best soldier and military mind the federation forces have to offer. Leader of the federation forces during the "Battle of Ruum" ("One week Battle"), he was captured when his flagship was destroyed. He escaped from Zion, just in time to address the people of Earth in a speech that became famous as the "Zion is exhausted" speech. A speech that convinced the populations of earth not to give in to the menaces of Zion's leaders, who where, at that time, in negociations with the federation about a capitulation of Earth. General Revil has the honor of being the discoverer of the Newtype potential present in the Pegasus' crew, making them, their ship and mobile suits, the nucleus of the federation mobile suit forces. He meets his death during the last battle of the "One year war", in 0080 U.C. (Universal Century).

ABREVIATIONS USED IN "GUNDAM"

Gundam: General purpose utility non discontinuity augmentation maneuvering weapon system. Ex: Rx-78 Gundam.

GM:	General model. Ex: GM-79
MS:	Mobile suit. Ex: MS-06 Zack
RMS:	Refined mobile suit. Ex: RMS-106 Hi-Zack
MSZ:	Mobile suit zeta. Ex: MSZ-006 Z-Gundam
AMS:	Advanced mobile suit. Ex: AMS-119 Geara Doga
MSA:	Mobile suit armor. Ex: MSA-0011 S-Gundam
MSN:	Mobile suit Newtype. Ex: MSN-04 Sazabi
REGZ:	Refined Gundam zeta. Ex: REGZ-91
RGM:	Refined general machine. Ex: RGM-89 Jegan
RGC:	Refined gun cannon. Ex: RGC-80
AMA:	Aerospace mobile armor. Ex: AMA-01x Jamuru Fin
FA:	Full armor mecha. Ex: FA-78-1
D:	Desert. Ex: MS-06 D
E:	Exploration. Ex: MS-06 E
B:	Bêta. Ex: RMS-117 Galbaldy-B
F:	Fighter. Ex: MS-06 F
K:	Kannon. Ex: MS-06 K
J:	Jäger. Ex: MS-14 Gelgoog-J
R:	Regazui (Refined). Sometimes means "Recon"
M:	Mariner. Ex: MS-06 M
Z:	Zeta. Ex: MSZ-006 Zeta Gundam
S:	Space or Superior
VMSAWRS:	Variable mobile suit and wave rider system
AMBAC:	Active mass balance auto control

Raymond P Campiglio (Order #33181648)

GUNDAM DICTIONARY AND TECHNICAL DESCRIPTION

Hereafter, you'll find a brief explanation on most of the technical jargon used in the three novels dedicated to the MS GUNDAM series.

APOGEE MOTORS:
Also known as directional thrusters. They are small jets disseminated on the mecha's body. Their numbers and size may vary following the type of mecha and its utilization on the field.

ACTIVE MASS BALANCE AUTO CONTROL (A.M.B.A.C.):
This acts as the nervous system of the mecha. It controls equilibrium, speed and various movements necessary for maneuvers.

BEAM RIFLE:
The main weapons of the mechas in "Gundam". This weapon uses a multipolar, high-powered electromagnetic coil that pulls energy from the fusion reactor of the mecha. When in use, the coil oscillates and then accelerates heavy metal particles inside the gun, ejecting them in a tremendous blast of energy, directed at the target chosen by the pilot of the mecha via an optical sensor situated on the rifle itself, a direct hit is always deadly, engaging an atomic reactor meltdown of the enemy mecha. Also known as "Beam gun" or "Beam pistol".

BEAM SABER:
Utilizes the same principle than the "Beam rifle" but the energy is kept in a elongated magnetic field (between 5 and 10 meters long). This is one of the most murderous weapons ever created.

BACK WEAPON SYSTEM (B.W.S.):
Winged back pack used by mobile suits on important combat mission or when heavy fighting is expected. They often incorporate heavy weapon systems such as missiles and "Beam cannons". Exemple: G-defenser in Zeta-Gundam.

BITS (DRONE SYSTEM):
Also known as funnels. These are independently flown drones who use the Newtype energy of the pilot. Warning! Can be controlled by Newtype pilots only.

"CORE BLOCK SYSTEM" (C.B.S.):
This is a small fighter plane that folds and forms, as its name indicates, the core of the mecha's body. The mechas utilizing that system are: Rx-78, MSZ-010 ZZ gundam and MSA-0011 S-Gundam.

FLYING ARMOR:
Used as atmospheric re-entry platform for non-transformable mobile suit. Also used for high speed displacement between locations. In service in the federation, Zion, Axis and Titans.

GUNDARIUM:
The alloy utilized for the Gundam's armor.

"HEAT SABER":
Used by Zion mobile suits (mainly the MS-09 Rick Dom). They are the ancestors of the beam sabers. They use extreme heat to melt the armor of the enemy suits, hence their name "Heat sabers". Exist in axe form.

INCOME SYSTEM:
This is utilized mainly on the "Gundam Sentinels" (MSA-0011 S-Gundam). They are primitive equivalent of the Bits and Funnels you can see in "Char's counterattack: Nu Gundam". See "Bits".

"LINEAR SEAT":
This is the cockpit seat. It includes life support system, foot and hand controls, targeting acquisition systems and signalization for rescue in case of ejection.

MAGNETIC COATING OR "MAG COAT":
Magnetic paint that permits the joints of the mecha to litterally glide on each other's surface. Extremely effective!

"MEGA-BAZOOKA" OR "HYPER BAZOOKA":
A very, very big bazooka. The caliber may vary between 200 and 900 mm.

MINOVSKY PARTICLES:
Discovered in the year 0065 U.C. (Universal Century) by Dr. Y.T. Minovsky, these particles changed the course of history. Infinitesimally small, they are metallic particles capable of absorbing both radar and radio waves that can be used as cover by an attacker, or as a smoke screen for a retreat. Their utilization, along with Zion's new weapon system, the "mobile suit", gave the archduchy one of it's greatest victory of the "One year war". The particles' biggest drawback are their short lifespan, which forces their users to renew them constantly. They are used by Zion and the federation as a cover for military operations, in space and in the sides.

"SIDES" (OR SPACE COLONIES):
These are the space colonies we'll probably see, if we live long enough. They are huge cylinders, about 35 to 60 kilometers long, containing about 25 million people each. Of course, gravity is created by rotation along their long axis. Usually, they have the same number of "ground panels" alternating with glass panels (if there's any ground panels, there will be three glass panels) which permits sunlight to get into the colony. There is always a space port at one extremity and a group of thrusters at the other . Solar panels are used for electrical needs.

NORMAL SUIT:
Environmental protection suit. They also serve as space suits.

"PSYCHOMU" SYSTEM:
Weapon utilizing the Newtype energy of the mecha's pilot. Both firing and aiming.

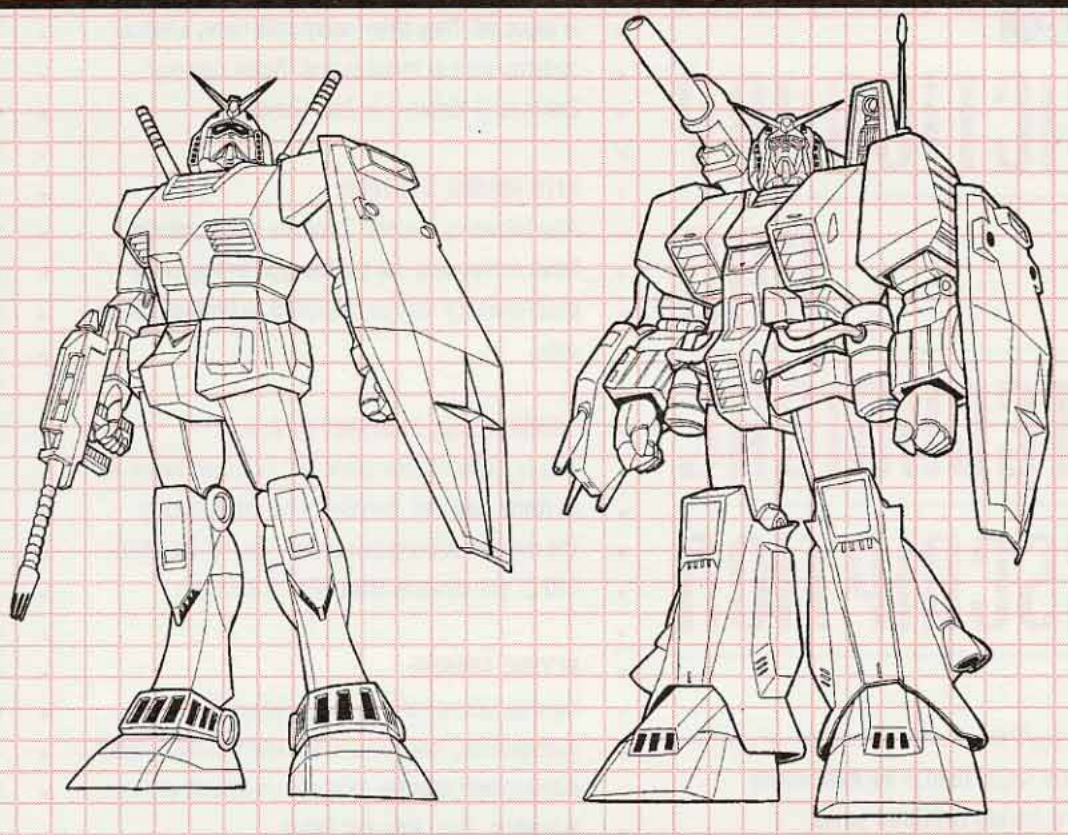
SKIRT:
Armor parts used to protect the leg and tigh joints. They do look like skirts!

SHOCK BALLOON:
Also known as "Gatlong gun". Often placed on the head of the mecha. Some are placed on forearm platforms for a more advantageous field of fire.

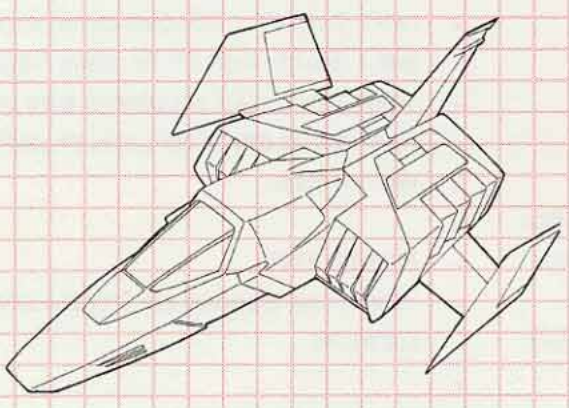
VERNIER ROCKETS:
Same as "Apogee motors" but smaller and more primitive. They use rocket fuel.

Raymond P. Campagna Online Collection

RX-78 GUNDAM / FF-X7 CORE FIGHTER

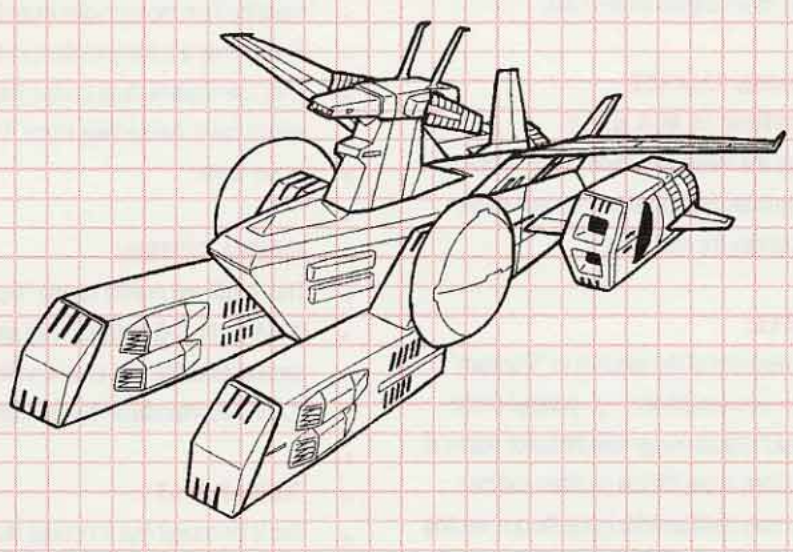


RX-78 Gundam mobile suit: Although humanoid in shape, this suit is extremely different from its opponent, the MS-06 Zaku. The most visible difference being the color. The zakus (zaks) are green (Char Aznable's is red) while the Gundam is predominantly white with a blue and red torso and some yellow on the chest, head and hips. In close-up, differences in shape, technology and armament are visible, even for the untrained eyes. The Gundam is slimmer and taller than the zaks, the head has two sensor cameras (the zaks only one), which are usually yellow or green. That gives to the suit's face that strangely human look. On the technological side, the Gundam's torso contains a "core fighter system" (see Dictionnary #), the thrusters are more numerous, maniability is increased comparatively to the zaks and the sensor and communication gears are more advanced. As far as the armament is concerned the RX-78 definitely has the upper hand with its "beam gun", "beam sabers" (2), "hyper-bazooka" and shield (see Dict. #). The Gundam's are mostly prototypes, which means that there's often only one in each animated series ("Zeta Gundam is an exception). "Gundam Sentinel" actually has 6 types of Gundams but there's no animation on this one. Look for Gundam "0083" and "F 91" model series in the months following this publication. Used by the federation.



FF-X7 Core Fighter: Especially conceived for the federation's "mobile suits". As its name says, it is a fighter, created to be the "core" of the suits. The FF-X7 has a flat and square shape, with re-configurable wing surfaces and a cockpit for one pilot (no passengers in this one!). But it isn't only a plane. It's also foldable, so that once re-configured, it forms a rectangular structure, which is placed vertically, between the waist and the torso of the "mobile suit" (the only way to do this is to separate the halves of the mecha) thus making the connection or "inter-link" possible. Being a compromise between a fighter, an ejection capsule and an "inter-link" system, the core fighter isn't very good in his fighter configuration mainly because of its lack of maneuverability and sufficient wing surfaces, making its atmospheric performances less than acceptable. Better examples will be seen in "Gundam ZZ" and "Gundam Sentinel". Used by the federation forces.

"WHITE BASE" CLASS SPACE SHIP (PEGASUS):



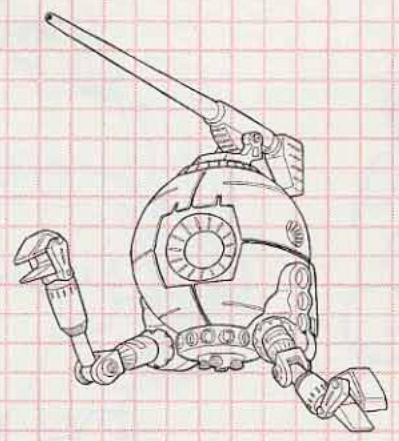
"White Base" class space ship (Pegasus): The federation mobile suit force flagship, the "Pegasus" is a strangely designed ship. It's name derives from its shape, which really looks like a squatting winged horse, with its wings deployed. The layout is quite useful for mobile suits' use. First, the two runways, equipped with catapults are placed on the forward legs, a giant hatch being situated on each side of the torso (which serves as a "mobile suit" bay). The bridge forms the head of the "horse", permitting a 100% view of the runways. The stabilizators or "wings" are the solar energy panels of the ship with many "apogee motors" disseminated all over their edges. As in standard ships, the engines are placed in the back of the ship with an airlock between the back legs. As for armament the "white base" class is one of the most heavily armed ship of the federation. Its weapons consist in: four (4) heavy "beam cannons", small missile launchers disseminated all over the ship and eight heavy missile launchers placed on the forward legs of the "horse". This ship is seen in all Gundam animation series even the two latest, "Gundam F 91" and 0083: Stardust memories. The "white base" class is used by the federation and the A.E.U.G. (in Z-Gundam).

Raymond P Campiglio (Order #33181648)

MECHA FILE

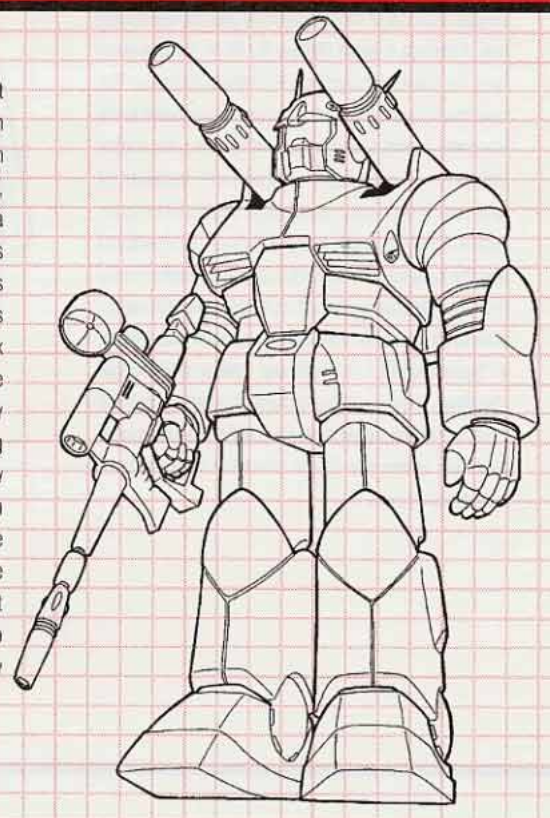
VX-76 BOWLS:

VX-76 BOWLS: These are an early MS prototype nicknamed "Bowls" because of their rounded shape. They lacked legs but had vernier jets in a 360-degree configuration for attitude control and had a pair of rudimentary manipulator arms. The arms were incapable of holding anything as sophesticated as a beam rifle, but a hyperbazooka was built into the prow section.

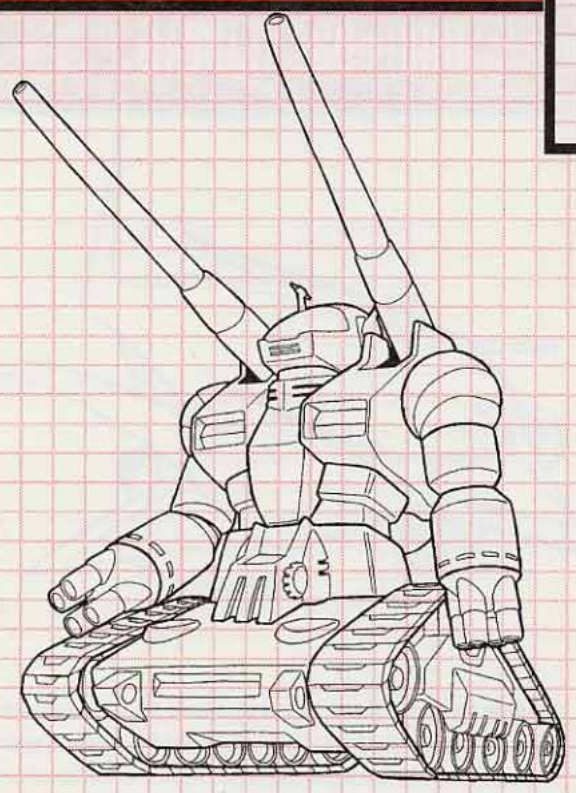


RX-77 GUN CANNON:

RX-77 Gun Cannon: The most heavily armed and armored suit in "Gundam MS". It is equipped with two (2) 280mm shoulder cannons, a "beam gun" (see Dict. #) and a shield. The blazing red color is used to distinguish it from the zaks (at a certain distance their shapes are similar) and the head is a mix between the Gundam's and the GM's. The gun cannon is mostly used for heavy cover fire or long range attacks, its low maneuverability being less than ideal for close quarter combat. The absence of a "beam saber" (see Dict. #) doesn't help any. That doesn't mean that the suit isn't up to its task, on the contraty. Used by the federation.



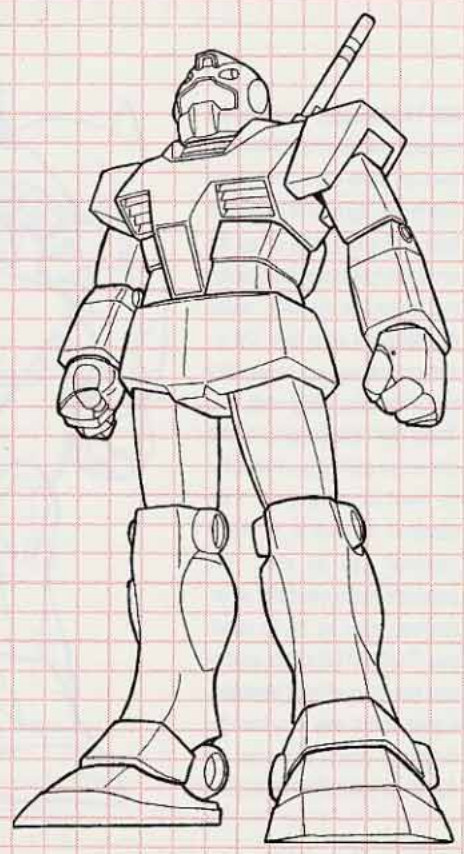
RX-75 GUNTANK:



RX-75 Guntank: The first suit designed by the federation forces, the Guntank is really an unusual machine. It is quite simply a "mobile suit" torso mounted on a tank chassis. The suit's design isn't very impressive but the armament is! It consists in: two 280 mm shoulder mounted autocannons (long barreled versions of the guncannon's) and two 120 mm four barreled gatling guns replacing the arms. Maneuverability isn't up to par, if compared to the other "mobile suits". Furthermore, without arms or legs, hand to hand combat is strictly forbidden. The only thing that saves the RX-75 from annihilation in combat is its awesome firepower and massive armor. Used by the federation forces.

GM-79 GM GENERAL MODEL

GM-79 GM General Model mobile suit: This is the Gundam's little brother. It retains the Gundam's extremely human shape and proportions, but on a smaller scale. The armament isn't as fearsome as the Gundam's and the head looks like a motorcycle helmet with a large viewpane protecting a single sensor eye (more advanced than the zak's). The colors are white and red, although more colorful examples are known (RGM-89 Vegan and MSA-003 Nemo) as it's name says, this is a suit manufactured in large quantities and is often piloted by new-comers in the ranks. It is felt by yours truly that the design of these suits does not protect their pilots adequately and that the armament does not live up to its task. Used by the federation.



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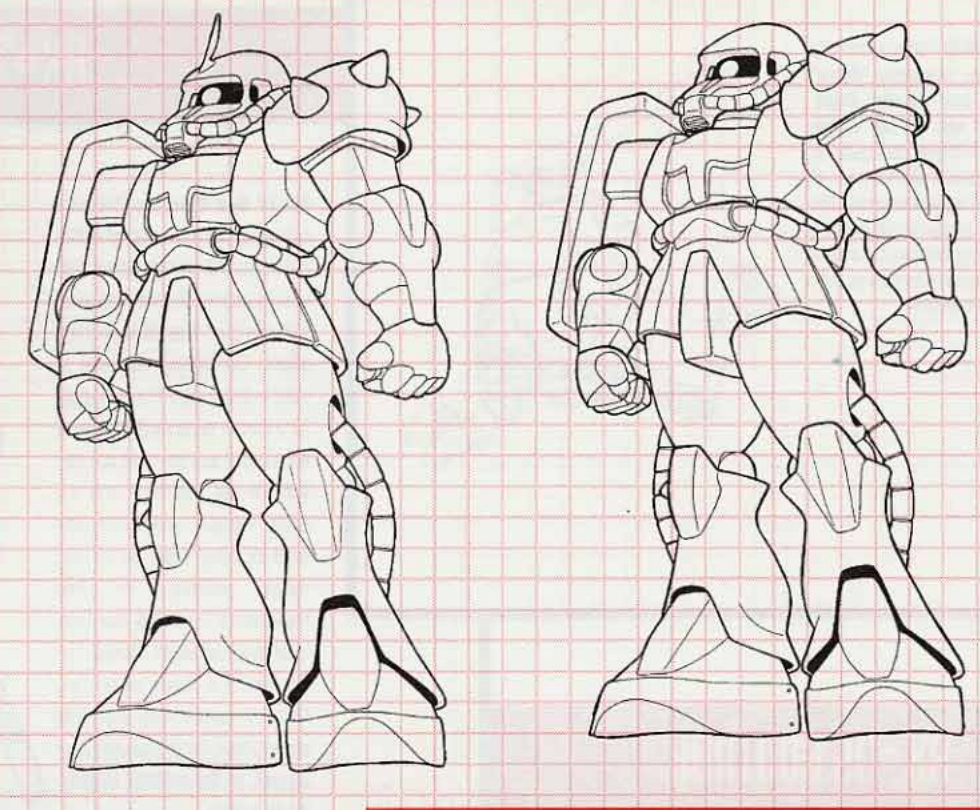
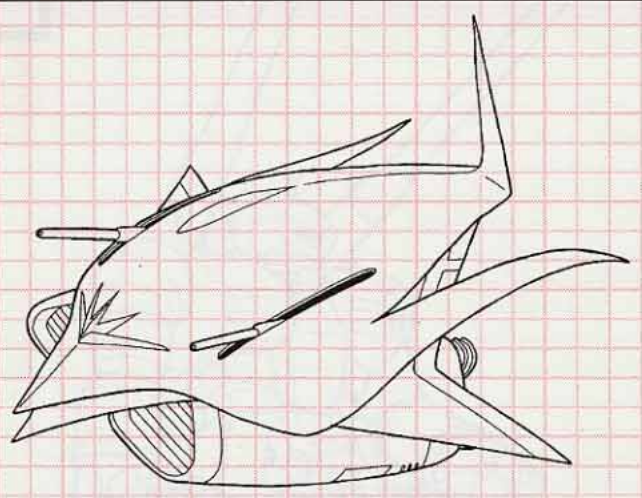
MS-06 ZAKU

MS-06 ZAKU (F and S): These are the first mobile suits ever made. It goes without saying that the design is much simpler than that of the Gundam suit used by the federation. Although it looks like the Rx-78 to the untrained eyes, the zakus forms are rounder and less technical. The head has no humanoid look whatsoever (compared to the Gundam), having a round shape with a mono-eye sensor camera (the Gundam has two of them) and two cables on each side. Propulsion is assured by a small fusion reactor engine linked to small "apogee motors" disseminated over the body for maneuvering in space. The armament is technically interesting for both its simplicity and efficacity. It consists of: a 120 mm automatic cannon (hand held), a "hyper-bazooka", a "heat axe" and a shield (right shoulder). The color of the mecha is of a sickly green (Sha Aznable's is red). Do not be fooled by the look of technical simplicity of this suit. This is an enemy to be reckoned with. Used by zion.



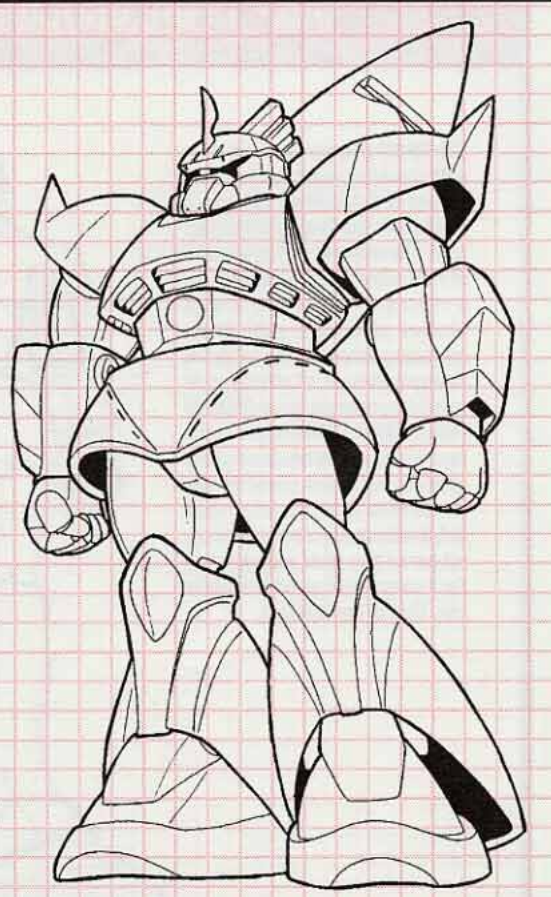
MAN-08 "ELMETH"



MAN-08 "Elmeth": This is not a mobile suit. In fact, it looks more like a flattened plane with no wings and no tail. The cockpit is located in an advanced position from the fuselage, which has, if seen from the side, the shape of a bird's head. The armament consists in: two particle beam cannons and ten "Bits" (see "Bits" in "Gundam dictionnary"). If the maneuverability is excellent, speed is truly astonishing (in space only), making the "Elmeth" one of the fastest and most efficient weapon system available to Zion. It must be said that only Newtypes can pilot the "Elmeth" and that ordinary pilots are easy preys for the "Bits" drones it is carrying. Used exclusively by Zion forces.

MS-14 GELGOOG

MS-14 Gelgoog: Even though the Gelgoog looks like the MS-06 Zaku, there are some differences. If you look closer, the head is longer and flater, with a kind of fin on top, the armor is thicker on the chest (where the cockpit is located), waist, shoulders and lower legs. The armament is much more heavier than that of the Zaku, being made of :a "Beam rifle", a beam saber, two 60 mm vulcan gatling guns (located in the head) and a big shield. If the operation demands it, an "hyper bazooka" can be used. The gelgoog's maneuverability is exceptional, even by RX-78 standards. The MS-14 is mostly used by aces that are confirmed Newtypes. A good advice: stay away from the Gelgoogs! They're bad news, no matter how you cut it! Used by Zion.



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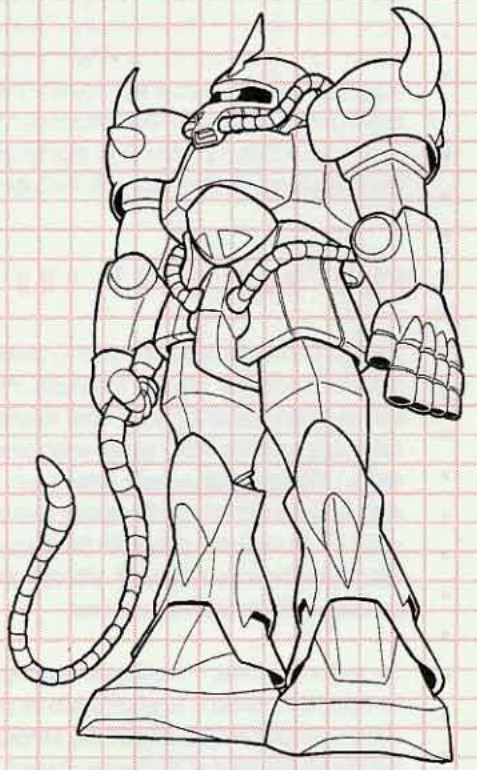
MECHA FILE

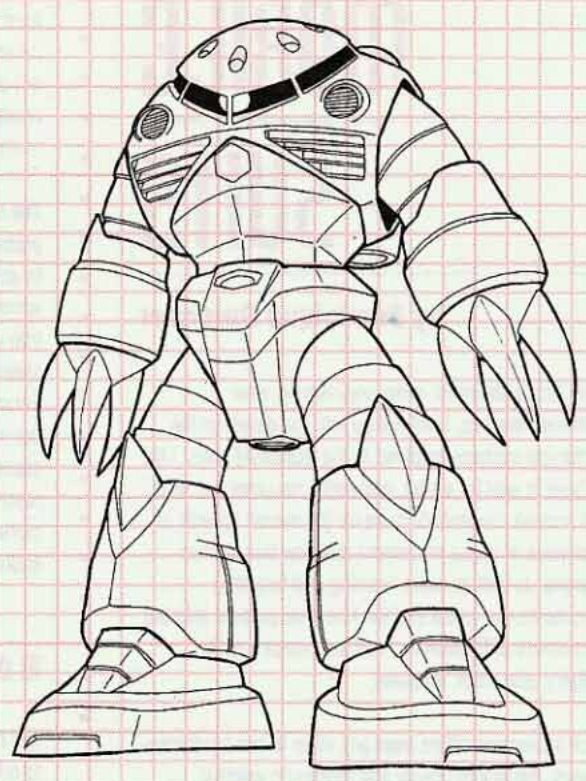
MS-07 GOUF (OR GUFFU):



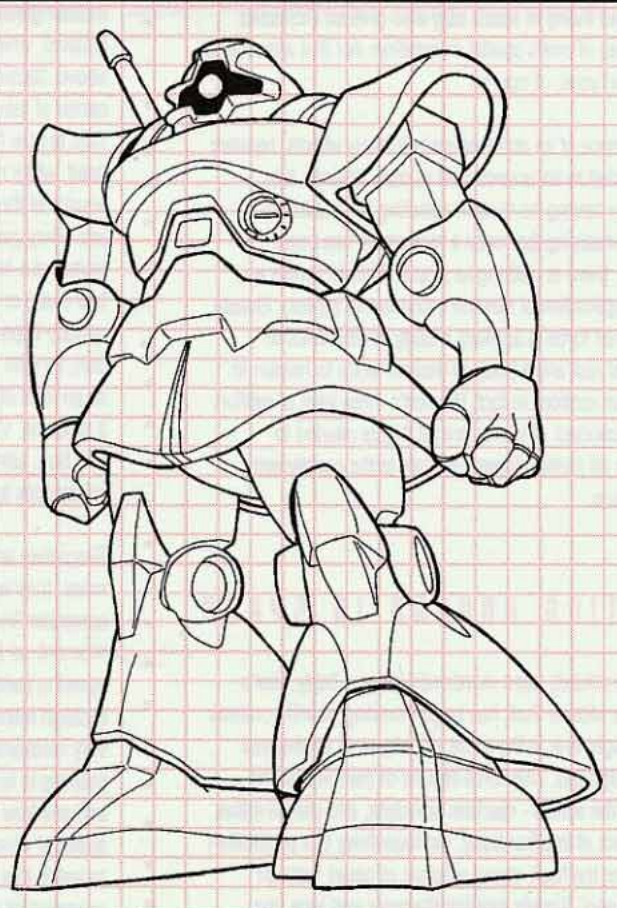
MS-07 Gouf (or Guffu): This "mecha" was created especially for commanding officers. The aspect and basic frame are directly taken from the MS-06 Zaku, to the point that, if you except the color (the MS-07 is blue, the MS-06 is green) the two can easily be mistaken for one another. The armament of the Guffu consists in: an energy whip (which retracts in the forearm when not in use), four 120 mm cannons (built into the left hand fingers) and a shield. Since this suit was conceived for hand to hand fighting in mind, it isn't a good idea to engage it in close combat. Used by Zion.

MSM-07 ZUGGOCKU:

MSM-07 Zuggocku: One of the strangest suit of "Gundam MS", this is a amphibious "mobile suit", used for underwater and wet conditions (marshes and such) assault. The body is squat and short, with no head, the unique mono-sensor eye camera being situated under a dome between the shoulders. The sensor camera can move 360° horizontally. There are arms but the hands are replaced by blade-like pincer-hands (two) and six (6) torpedos placed between the shoulders (on top of the "head"). On the "Gundam 0080" version, a beam cannon is placed inside each forearm. A thruster back pack can be installed for special assignments. The Zuggocku is used mostly for commando style operations, along with it's usual partner, the MSM-03 GOG (MSM-03/C HY-GOG in "Gundam 0080"). Zion is the sole user of this mecha.



MS-09 RICK DOM:



MS-09 Rick Dom: Zion's heaviest suit in "Gundam MS". The colors are purple and black with some red on the head. The shoulders, hip and back skirts are flared for better protection from glancing hits, as are the lower legs. The head is very distinctive, the mono-eye sensor camera being situated in the middle of a viewpane affecting the form of a cross which gives the suit a 180° field of vision horizontally and vertically. This suit is designed for very close quarters combat and the armament shows it: "Hyper Bazooka" (360 mm rockets), heat saber (1) and two (2) vulcan guns in the head. The armor is heavy and maneuverability is comparable to the Gundam's own. Truly an adversary to fear and respect. Used by Zion.

Raymond P Campagna (Omen #33616)

ENGINEERING OUTLOOK

ON MOBILE SUITS

by Dominique Durocher

In this first installment of my engineering view of different mechas, I will not go into the details of the mechanical systems involved in the GUNDAM suits. This will have to wait for a later, and better documented, time. I will instead concentrate more on the overall aspects of the physics of space movement and how this applies to mecha, as well as some tracking and targeting particularities in space and the Minovski particle infested environment of GUNDAM. I will also spare you the drudgery, and math, involved.

Space movement differs from any other in two fundamental ways: the lack of gravity and having no external friction. Weightlessness in itself is not the major factor in the difficulties of space travel, other than some physiological aspects, it is only somewhat confusing in that the usual up-and-down reference we use to orient ourselves no longer exists. Training and the use of an artificial reference, like the orientation of the carrier ship at the time of launch, will eliminate these effects. Prolonged living in space may also give an increased awareness of one's spatial orientation; not that associated with NewTypes, of course.

The absence of an atmosphere has many effects, besides being lethal to an unprotected human. Mainly, this results in having no friction resisting the motion of bodies, meaning that once a movement has been initiated, there is nothing to stop it. This is simply a direct application of Newton's first law of motion: Unless an external force is applied, a body at rest tends to remain at rest and a body in motion tends to remain in rectilinear motion. In fact, Newton's three laws of motion and the concept of inertia are all that is needed to describe all motion in space. Here is the condensed description.

GETTING AROUND IN SPACE

As it has already been mentioned, once a body, like a ship or a Mobile Suit, has begun moving; it will continue in a straight line at the same velocity until an external force is applied. This force results of the third law of motion, the action - reaction principle, and can be either the impact of another body, the launching of a projectile (recoil) or the high-speed ejection of gases from an exhaust port. Simply moving the arms and legs, the "wing flapping" syndrome, will result in nothing more than a slight rotation of the MS since the forces required are internal to the system, but I will discuss this later. All this means is that, once the suit has started moving, it requires the same force applied in the opposite direction to stop. According to the second law of motion, the intensity of the force will determine how quickly it will be immobilized. As for turning, that comes down to stopping your movement in one direction and starting in the other. This will usually be done under computer control, gradually changing the thrust line to be perpendicular to the direction of travel and obtaining a smoothly curving arc.

The required thrust is generated by circulating a pressurized liquid in or near the reactor core, allowing it to absorb heat. This super-heated liquid, the state in which it remains because of its pressure, is then injected into an exhaust cone, where it is accelerated to high speeds creating an enormous propulsive force. Functioning in this way eliminates the need for combustion to increase the gas pressure, therefore not requiring separate fuel and oxydizer, increasing the quantity of reaction mass (as non-combusting fuel is called) carried. This results in an increase in the autonomous endurance of the Suit, although it still remains limited.

MOVING YOURSELF AROUND

It is not all to simply be able to change position, but also to orient oneself in space. No amount of speed can help if you cannot rotate to face an opponent from your side. This involves moving the Mobile Suit around its center of mass, the point at which the mass of a body is considered to be concentrated for the purposes of dynamics analysis (noted Cm from now on).

Applying thrust has two effects. First, there is a linear motion generated in the direction opposite of that of the exhaust, which is used mostly to propel the Suit as seen above. Second, if the thrust line does not pass by the center of mass, a rotation is induced around this point. This is how the Mobile Suit will twist and turn around on itself, while maintaining the same direction of travel. The source of thrust for these maneuvers are called Vernier jets. They generally consist of a container sending short bursts of a liquid, generally nitrogen (largely available at low cost) or perhaps an inert gas (like helium), which is quickly vaporized and accelerated in a parabolic exhaust port, as with the main thrusters. This port can be as little as an inch in diameter, making them all but invisible from a distance. Vernier jets are dispersed all over the surface of a Suit, although many are concentrated near the extremities for greater leverage.

Since they are generally not lined up with the center of mass, they will cause the rotation of the Suit, with the computer firing two or more, forming a coupling moment, as to not affect its overall direction. Rotation speed is controlled either by the length of the burst or through inertia. Controlling your inertia allows you to vary rotational speed; a classic experiment in physics courses is to observe a student spinning on a turntable, and see how spreading his or her arms changes the speed at which the student turns (it is also a good show to watch this person walking around afterwards). Good examples of this would be airborne gymnasts and figure skaters or, better yet, divers. With nothing but an initial impulse, they use the position of their limbs to vary their rotational speed, extending them to slow or tucking in to accelerate. Again, since there is no external friction, an equal use of the jets is needed to stop the rotation.

You can also move around slightly only by moving the Suit's limbs. This movement requires purely internal forces, which do not affect the spatial position of the center of mass, only where it is within the suit. In this way, raising the arms, which will bring the center of mass higher, will in fact lower the Suit because the absolute motion of the Cm is null. This can allow some fancy dodging, moving the arms and legs around to shift the body's position away from an impending impact. High jumpers use this effect to gain a slight edge by passing their center of mass under the bar while the body is over it.

HOW AND WHAT YOU SEE

There are five major categories of sensing devices presently in existence : acoustic, radio/radar, infra-red/ thermal, electro-optical and direct visual observation (colloquially called the Mark I eyeball within camouflage circles). The first group, acoustic sensors, can immediately be eliminated in the vacuum of space, since sound has no medium to carry it. All the others are basically unaffected by space itself, although some particular effects do present themselves.

The problems involved in tracking and targeting are, in the GUNDAM universe,in large part due to the presence of large quantities of Minovski particles. Minovski particles are described as infinitesimal charged, and probably conductive, particles that fuse with plasma and create an unstable ion state that absorbs radio waves, therefore making radio communications and radar tracking useless. Actually, this means that the particles absorb electromagnetic radiation (which includes radio waves, light, infra-red, X-rays, etc...) in the longer wavelength bands (in the order of the meter to 0.01 meter) corresponding to radio and radar without affecting the region of visible light, since lasers are mentioned to be the only reliable long-range sensor. This absorption comes from the reaction of the charged particles to the electric and magnetic components of the radio waves. When a conductor is subjected to a varying magnetic field, current is generated within it, which is how electrical generator work. In this case, the current is contained within a particle without having a circuit to flow through, and is called a Foucault current. This current, in turn causes a magnetic field opposing the change that created it, and jams the signal that it was. The fact that the particle is charged only means that it is accelerated by the electrical field of the radio wave, therefore increasing the rate of change of the magnetic field and increasing the Foucault currents.

This leaves visual, electro-optical and infra-red. The latter would seem an ideal choice, since space is extremely cold. The background heat radiation is considered to be that of 3°K (-270°C or -454_°F) With the amount of heat generated by the fusion reactors and weapons of Mobile Suits, they would stick out, quite literally, like a fire at night. But it would seem that IR sensing is also affected by Minovski particles. Nothing less that the flares of a missile's rocket thruster is mentioned as being detected

Raymond P Campiglio (Order #33181648)

on infra-red scanners. This would happen with the re-emission of the absorbed radiation in the form of heat. This is to be expected since Minovski particles should have some electrical resistivity (assuming that the extreme temperature does not make them superconductive). The energy dissipated by the resistance would be radiated as heat, possibly enough to create a "hot" background in areas other than those in the direction of the sun or affected by the proximity of a planet.

Visual and electro-optical are affected in very similar manners. Visual sighting is limited by the resolution of the eyes. It will allow you to determine the direction in which an object is, but with the lack of reference in the vastness of space and the lack of an atmosphere to blurr distant objects, one loses the sense of scale. This makes determining ranges somewhat difficult. The same is true of electro-optical sighting, essentially looking through television cameras. One can hardly determine at what distance an object is or its size. Lasers, that I include in the electro-optical sensors, functions like a radar, sending a beam of visible or near-visible light that is reflected back towards its source from a target. By scanning in a tight pattern around a detected object, it is possible to get an idea of its shape as well as its range, from the time for the echo to return, and speed, by the Doppler shift of the light frequency.

KEEPING COOL

Another aspect that has been brought to my attention is heat evacuation. There are three modes of heat transfer: conduction, convection and radiation. The two first are the most efficient, but they require a medium, like air or preferably water, into which the heat will flow. This medium is not present in space, leaving only radiation. This heat transfer mode actually involves the exchange of energy between different bodies through a combination of emission, absorption and reflection. In space, a body needs to emit more heat energy than it receives to have a total evacuation, obviously. This result is not always as obvious to achieve though, and considerable research is presently underway to improve heat sinks for satellites and the space station, but this is slightly beyond my level.

That's it for this time. In the next issue, I will describe the characteristics of hydraulic and electrical actuators used in mecha, and the implications of these on their feasibility.

POSTER-ZINE

AKIRA

This New publication feature a great 34" x 22" full color poster on one side, folded to an eight pages anime newsletter on the other. It will contain illustrated articles on a wide variety of Japanese animations.

Poster-Zine will be aimed at a much broader and wider market than usual anime magasines. It will be published bi-monthly on a full-color double-size poster. First issue to be released in February.

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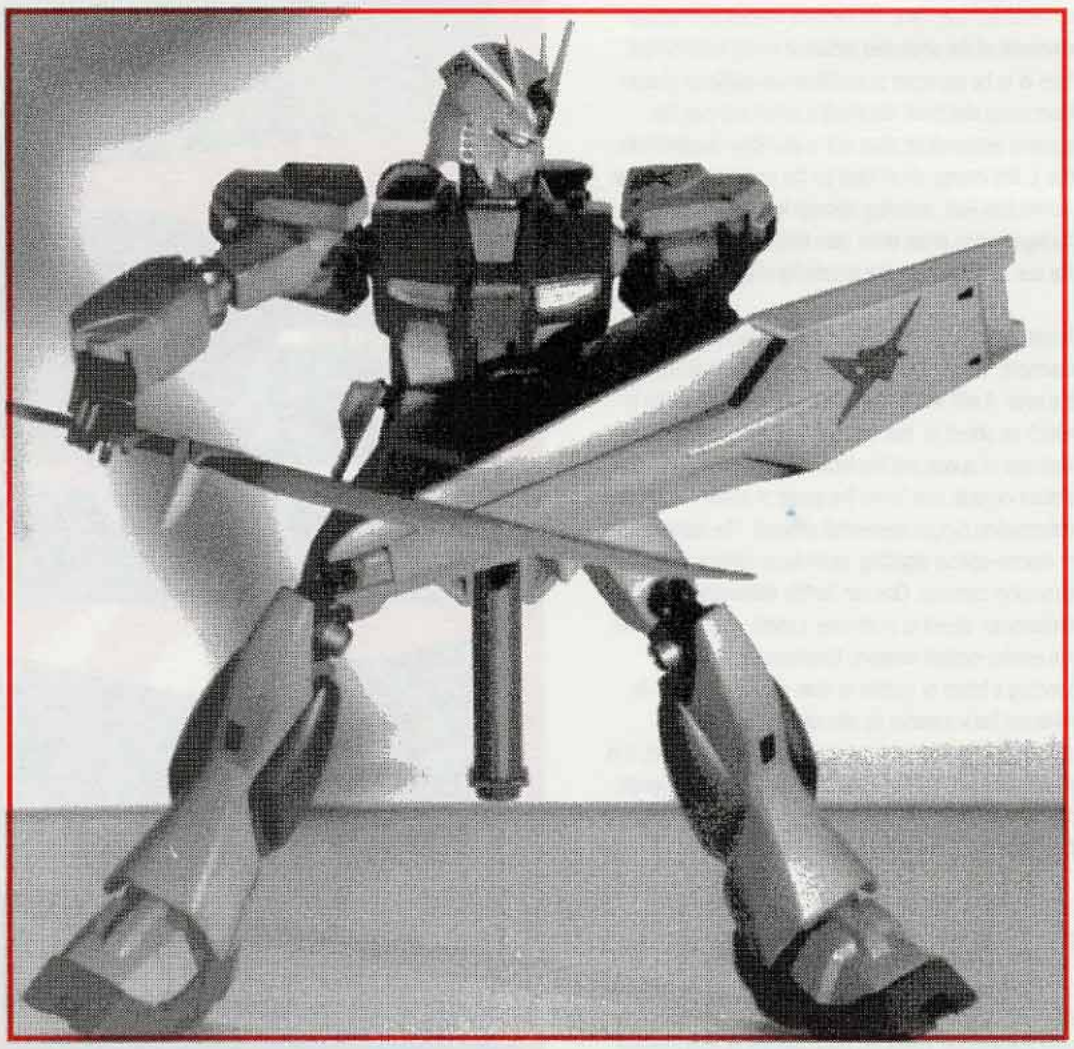
Raymond P. Campopiano Outre #55165033

AMURO RAY NU GUNDAM RX-93

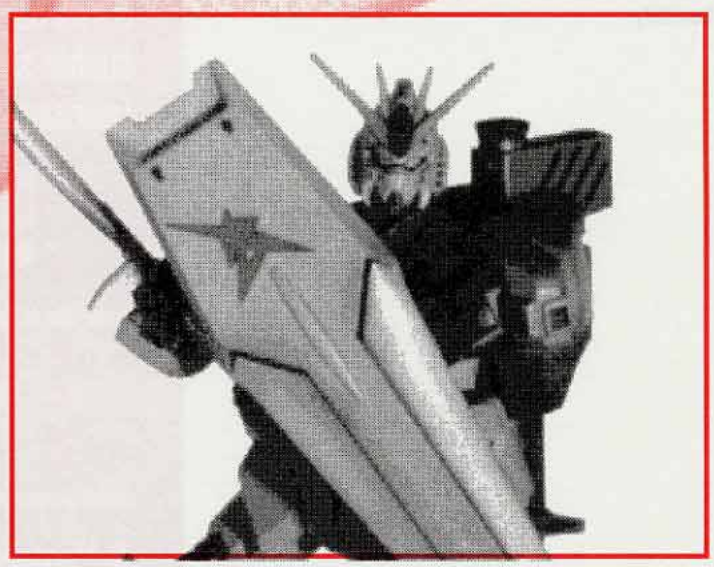
by Pierre Ouellette



RX-93 NU GUNDAM (BANDAI'S "NU GUNDAM" MODEL SERIES N001).

That's a nice kit! Easy to do, it can be snap assembled or, if you are a real modeler(!), you can use glue (personnaly, that's what I did). The RX-93 comes with it's standard equipment (there's a kit with the "Fin Fannel Equipment"), namely: a "Hyper Bazooka", a beam rifle, a "beam saber" and a shield with a integrated "beam cannon" and four missiles. As always,with Bandai kits, the molding is crisp and the details are painstakingly reproduced.

The joint system is fantastic but has a little problem the paint wont hold on the polypropilene parts. The stickers are not the usual kind that you soak in water because They're all ready to go on the model , just like bumper stickers! The paint used for the model was HUMBROL'S "AUTHENTIC" colours", applied with a air brush and a small paintbrush(for small details). The panel lines were executed with a rapidograph



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CHARAZNABLE SAZABI MSN-04

by Pierre Ouellette

MSN-04 :"SAZABI" (Bandai's "Nu Gundam" model series no04)

Another very good kit from Bandai. As the Nu Gundam, the "SAZABI" can be assembled snap or with glue. Of course, the options are numerous, such as:movable skirts, a(big) shield with four missiles, a" beam gun" and two (2) different "beam sabers". The joint system is very good (although not as good as the Nu Gundam's) and the stickers are truly remarkable. The MSN-04 "SAZABI" being red in the animation, the molding was done in red, dark red and blue-black colored, high quality plastic. The paint I used wasHUMBROL'S "AUTHENTIC" colours,applied with an airbrush and a small paintbrush (for details). A rapidograph was used for the panel line

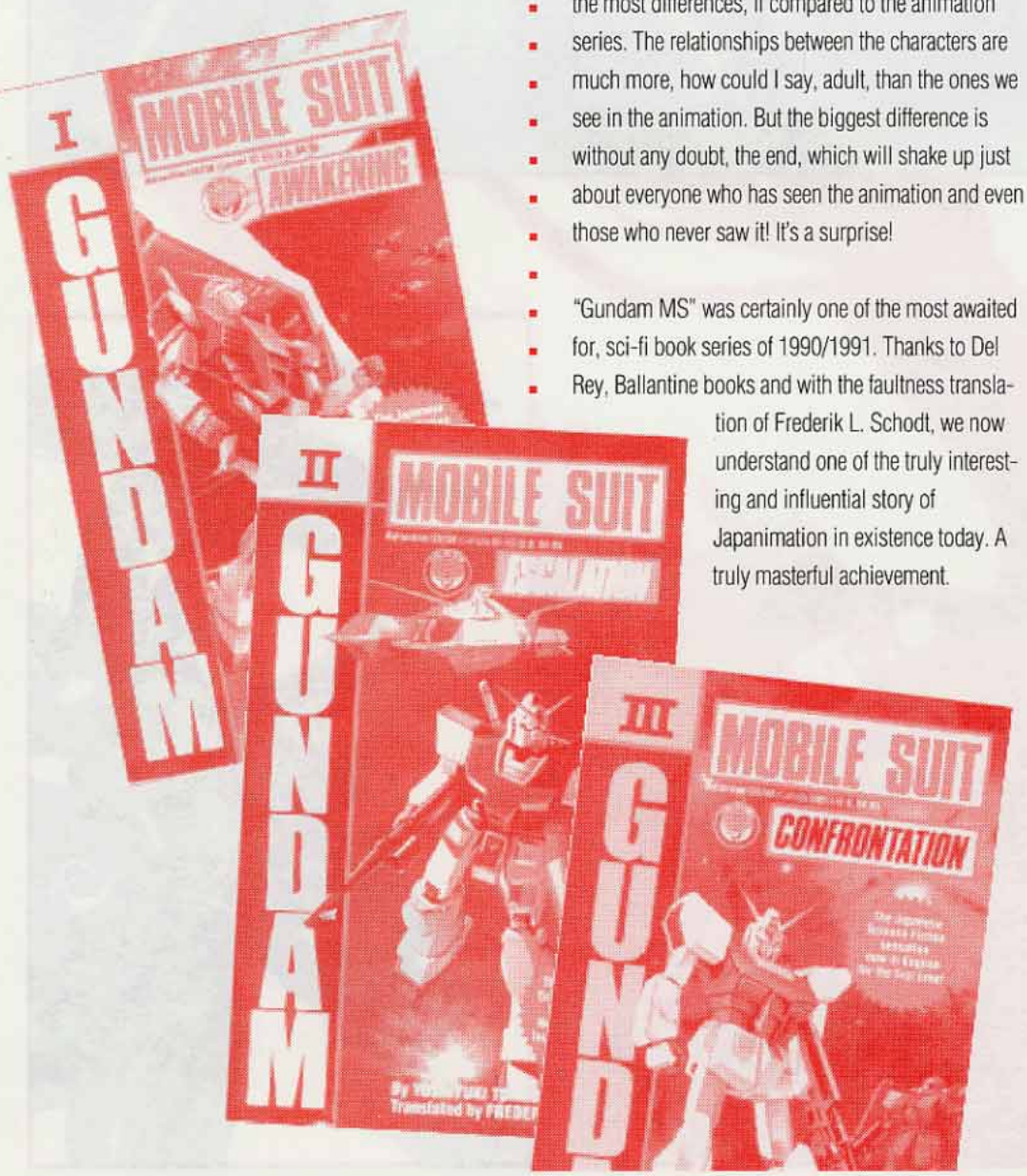
MECHA CRITICS

MANGA

BOOK SERIES "GUNDAM MS"

Another publication we, Japanimation fanatics, had been waiting for with big expectations. "Gundam MS" being the first Gundam instalment in english ever made, our excitment was understandable. This is a 3 books series, which, more or less, follows the animation series.

The first book, titled "Awakening", deals mostly with the "Newtype" theory and the emergence of the Newtype potential of Sha Aznable, Amuro Rey (the two principal characters) and the various other characters appearing in the "Gundam MS" saga. Of course the "mobile suit" are described (not with sufficient detail though) as are the "Minovsky particles" (essential to understand the space combat tactics that are used throughout the books and animation series).

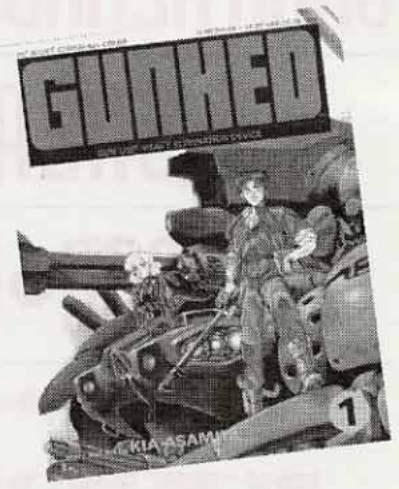


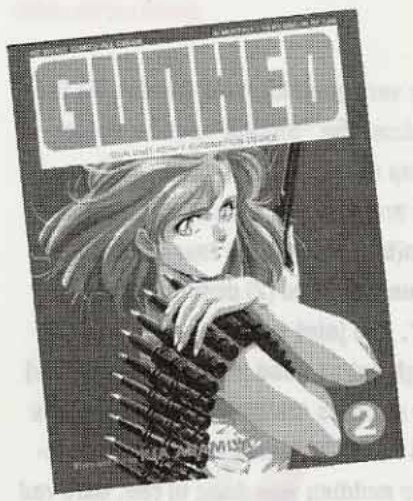
The second book, titled "Escalation" is right on the money, if you want to take a deeper look at the character's personalities and psychees. There aren't as many combats as in the first part but the ones that are there are worth more as far as the use of the "Newtype" qualities of the characters are concerned. One of the causes for this is the training sequences of Sha Aznable's Newtype team (who, by the way, are using MS-09 Rick Doms) and Amuro Rey's way of dealing with them in combat. One of the most interesting things about this second part is the way Saila Mas and Amuro Rey's love affair develops into one of the most important aspects of "Gundam", showing how much two "Newtypes" can understand each other in the deepest level of consciousness.

In the third book titled "Confrontation", we see the action from Zion's side (while the precedent ones were more on the federation's side), exploring the social and military systems of the archduchy. We also see Gren Zavi, traitorous and cold blooded, who will try to kill his own sister, without any remorse or second thoughts. The third book is also the one with the most differences, if compared to the animation series. The relationships between the characters are much more, how could I say, adult, than the ones we see in the animation. But the biggest difference is without any doubt, the end, which will shake up just about everyone who has seen the animation and even those who never saw it! It's a surprise!

"Gundam MS" was certainly one of the most awaited for, sci-fi book series of 1990/1991. Thanks to Del Rey, Ballantine books and with the faultness translation of Frederik L. Schodt, we now understand one of the truly interesting and influential story of Japanimation in existence today. A truly masterful achievement.

GUNHED CRITIC VOLUME ONE AND TWO





Now, that's a quality comic for you! Viz Almay impresses me by way of their translations and quality of production. Yes, the price can seem a bit high for a comic ($4.95 US/6.50 CAN) but visually, the fifty pages are worth it. The idea of coloring "Gunhed" (which was originally a black and white manga) was a brilliant idea, that truly worked at the advantage of the comic (let's hope "Nausicaa of the vally of wind" is next on their list for this little treatment). The sad thing about "Gunhed" is that the story just doesn't stand up to the quality of the artwork. Yes, the mecha, Gunhed 507 (Gunhed means "Gun unit /heavy elimination device) looks great and even realizable on the technical point of view but as I said, the plot just doesn't match the art and that's a shame. The artist and story writer, Kia Asamiya really didn't have a good idea by doing both by himself. Now, all this doesn't mean that "Gunhed" is a piece of crap. Far from it. Buy it for the artwork and you'll be the winner. The thing is that, sometime soon (in the summer of 1991) the "Gunhed" live action movie (on which the comic is based) which was one of Japan's greatest movie hits of 1989, will make the "Gunhed" comic extremely popular, so don't wait to get it!

Raymond P Campiglio (Order #33181648)

APPLESEED BOOK 2 COMPILATION

At last! The appleseed Book 2 compilation has arrived, reuniting the five volumes of the best of the Appleseed Books published in America so far. At the end of book one, the questions we were asking ourselves were: what would happen to Deunan? And Briareos? Would he be able to protect Deunan from the forces vying for power in Olympus? And what's Hitomi's role in all this? Well, Book 2 clears the air about those questions but raises much more important ones. Are the Bioroids conscious of their role? Were they created to help and guide humanity or simply to govern or even replace it? And Gaia, the super computer? What side would she choose, if need be? As always, Shirow asks the questions in a muddled way, which means that you have to read the book four or five times to understand what's really going on. But please, let's not forget that Appleseed deals with utopia, so it has to be difficult to follow. That's the whole point Shirow's trying to convey here. It can look simple but, in reality, be extremely complicated and delicate when you deal with conscience and the choices people have to make to decide what's right and what's wrong for the interest of humanity.

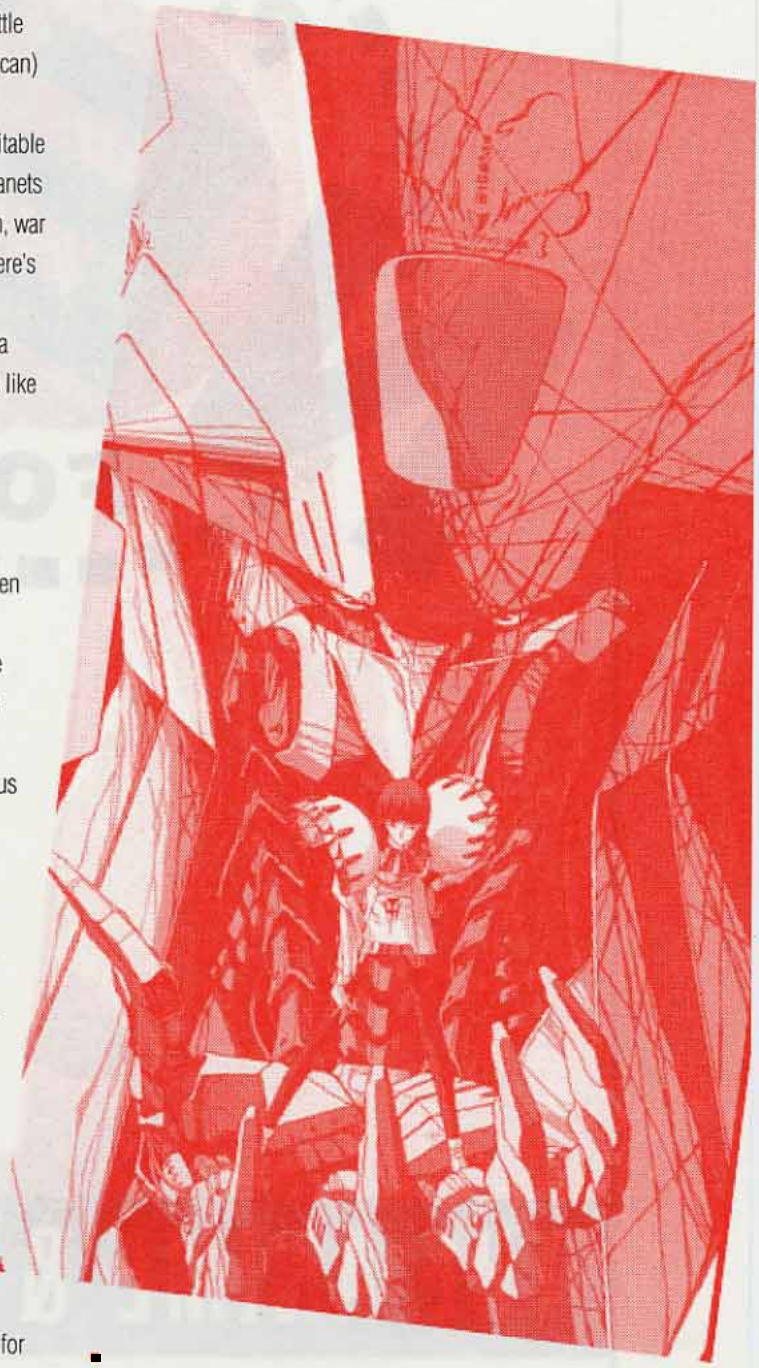
On the drawing side, perfection can't be judged, can it? The only thing some of the readers might dislike are those famous "speed lines". There are even more of them in Book 2 than in Book 1. But the gun platforms guges and cyborg race taking place during the last three volumes (that means nearly a hundred and fifty pages of the craziest action scenes ever seen in a comic, folks!) is incredibly rendered by that style. As for the characters, well, Deunan is wilder and sexier, Hitomi is cuter, Briareos is even more imposing, professionally and physically speaking than before and damn, even Athena is a better schemer! What more can you ask from characters? And technically speaking, the designs are even crazier in this one. All this to say: if you see the Appleseed Book 2 compilation, buy it! It's worth at least a (very) long look!

VIDEO

"THE FIVE STAR STORIES"

How can you critic something that you think is perfect in every detail? MMMH? Well, you start by saying "It's the greatest animation I've ever seen. Simple, huh? So let's begin with the story. The plot is a little hard to understand at first (get a synopsis, if you can) but stick with it, it's worth the hassle. "Five Star Stories" is set in 2989, on Addler, one of the habitable planets of the Joker star system. Each of these planets is divided in a certain number of kingdoms. Often, war breaks out between them. When this happens, there's no battles involving thousands of men (it was probably too wasteful anyway). Instead, they use a type of enormous humanoid machine (who looks like Samurais) called "Mortar headds", to wage war. These "mechas" have two pilots, one being an ordinary human, the other a living humanoid computer, known as a "Fatima" (they're always feminine). These "Fatimas" are very scarce so when one is produced, all the "headliners" (or mecha pilots) reunite for a ceremony, in the capital of the kingdom where the Fatima has been produced. In the film, three fatimas have been produced at the same time, so the ceremony is particularly fastuous and grandiose. The most powerful kings and presidents (many of them being headliners) were present at the "unveiling" (that's the ceremony's name). This is where the two principal characters, Lachesis and Ladioss Soapp, appear. Soapp, an extremely feminine looking man (he's not gay, though!), is in fact the emperor Amaterasu, of Delta Belune, the only planet reunited under one ruler, while Lachesis is one of the three fatimas that will be presented at the unveiling. All the other characters in the movie more or less gravitate around those two, sometimes creating ambiguous situations (when someone tries to seduce Soapp, for example).

Technically, the animation of "Five Star Stories" is more than first rate. An example: when the characters move, their hair react the way it's supposed to be reacting, like, if there's a light breeze their hair will be mussed by it. The characters themselves are incredibly designed, long and thin, just like fashion sketches. Talking about fashion, the wardrobe is truly a marvel to look at (Lachesis' is the best of all) and the colors used throughout the film are soft, pastel like tones, giving the feel of a light and calm atmosphere. Of course, the "Mortar Headds" are up to par, with their strange but beautiful paladin looks (the knight of Gold is really awesome!), being most mesmerizing mechas ever created for any sci-fi animation. Let's not forget the soundtrack (of "Star Wars" quality) and you get a true and unique masterpiece. See it and be converted!



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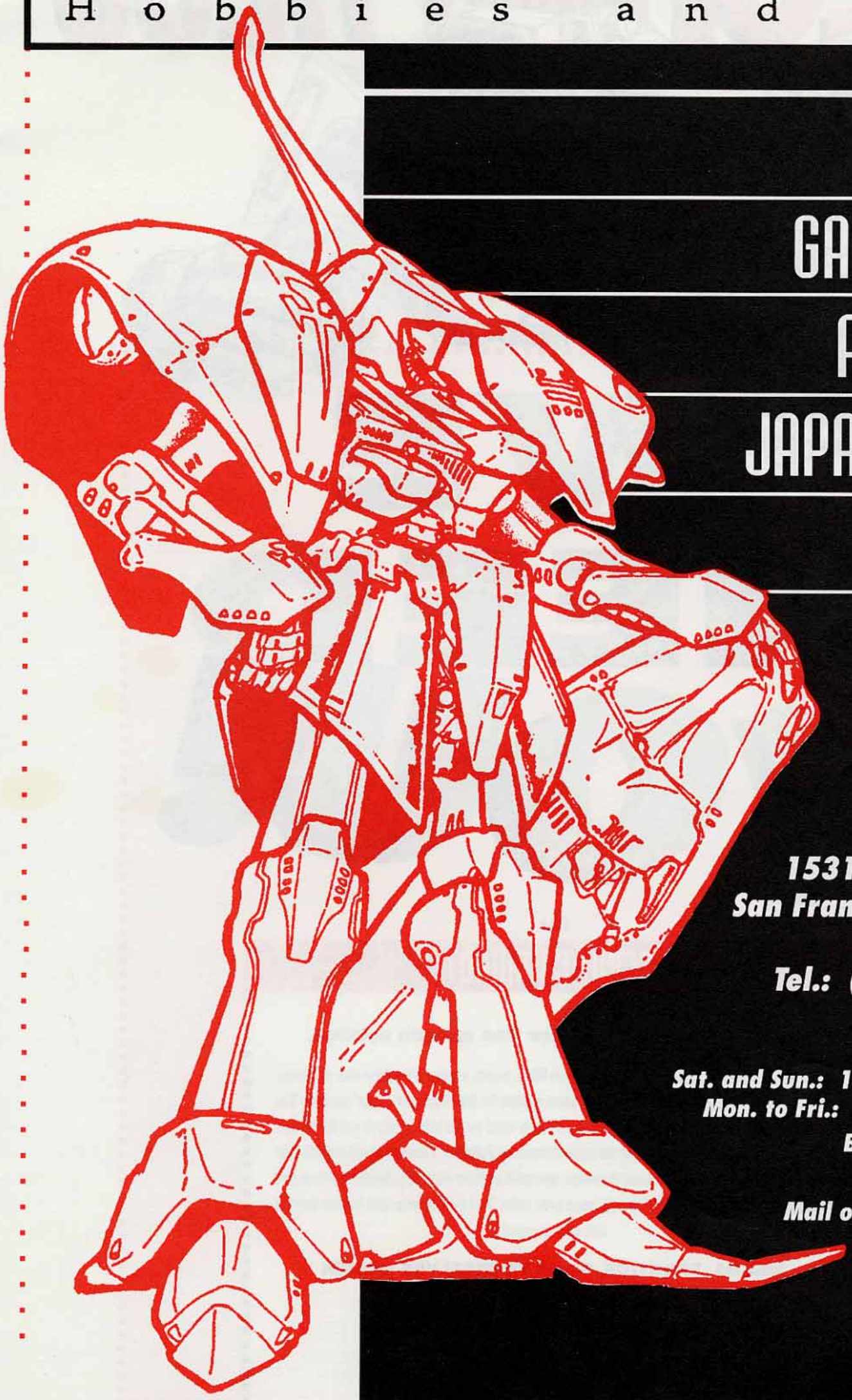

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